BLACKIE & SON LIMITED
LONDON AND GLASGOW
1939

BLACKIE & SON LIMITED
50 Old Bailey, London
17 Stanhope Street, Glasgow
BLACKIE & SON (INDIA) LIMITED
Warwick House, Fort Street, Bombay
BLACKIE & SON (CANADA) LIMITED
Toronto

Printed in Great Britain by Blackie & Son, Ltd., Glasgow

CONTENTS

FIRST HALF YEAR

SECOND HALF YEAR

Exercise 1

Revision

A. NUMBER

1. $32 + 26$.
2. $17 + 29 + 53$.
3. $177 + 88 + 239$.
4. $113 + 15 + 123 + 346$.
5. $76 - 34$.
6. $52 - 37$.
7. $273 - 136$.
8. $720 - 436$.
9. 72×4.
10. 26×8.
11. 75×12.
12. 156×6.
13. $7 \overline{)84}$.
14. $11 \overline{)123}$.
15. $5 \overline{)629}$.
16. $9 \overline{)909}$.
17. Find the sum of nineteen, seventy-nine, and three hundred and eight.
18. Take two hundred and five from seven hundred and seventy-six.
19. Find the product of one hundred and thirty-six and seven.
20. How many eights are there in eight hundred and two?

B. MONEY

1. $6\frac{1}{4}d. + 4\frac{1}{2}d. + 9\frac{1}{2}d.$
2. $3s.\ 9d. + 7s.\ 8d.$
3. $6\frac{1}{2}d. + 3s.\ 4\frac{1}{4}d. + 1s.\ 2\frac{1}{2}d. + 5s.\ 2\frac{1}{2}d.$
4. £3. 5s. 4d. + 13s. 7d. + £1. 7s. 11d.
5. $10s.\ 0d. - 7s.\ 5\frac{1}{4}d.$
6. $12s.\ 3\frac{1}{4}d. - 6s.\ 9\frac{1}{2}d.$
7. £3. 12s. 9d. — 14s. 10d.
8. £5. 7s. 8d. — £1. 13s. $8\frac{1}{2}d.$
9. $2s.\ 9d. \times 5$.
10. $2s.\ 4\frac{1}{2}d. \times 7$.
11. £1. $3s.\ 5\frac{1}{2}d. \times 5$.
12. £1. $4s.\ 9\frac{1}{2}d. \times 8$.
13. $5 \overline{)15s.\ 11\frac{1}{4}d.}$
14. $9 \overline{)19s.\ 8\frac{1}{4}d.}$
15. $11 \overline{)16s.\ 8\frac{3}{4}d.}$
16. $7 \overline{)£8.\ 2s.\ 9d.}$
17. Find the total of sixpence halfpenny, one shilling and threepence, and ninepence three farthings.
18. Find the difference between seventeen shillings and elevenpence, and one pound and tenpence.
19. Multiply thirteen shillings and fourpence halfpenny by nine.
20. Share one pound one shilling and tenpence halfpenny by seven.

Exercise 2

Number. Reading, Writing, and Splitting-up Numbers

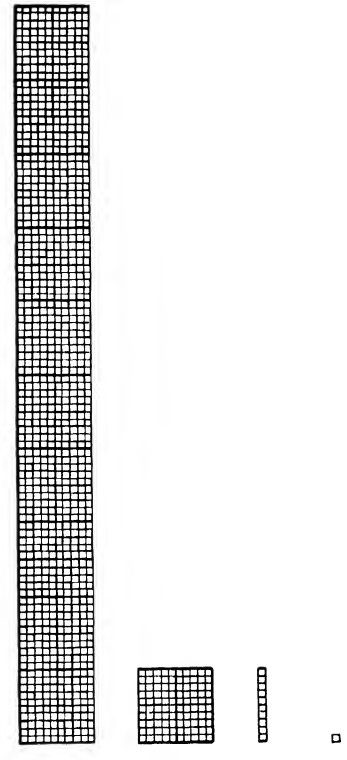
1. (*a*) How many small squares are there altogether in the picture? (*b*) If two more hundred squares be added, how many would there be then?

2. If three more hundred squares and four more ten-slips be added to the squares in the picture, how many squares would there be then?

3. Write in figures: (*a*) Seventy-seven; (*b*) four hundred and eleven; (*c*) one thousand five hundred and nineteen; (*d*) three thousand five hundred and thirty-six.

4. Write in figures: (*a*) One thousand three hundred and sixty; (*b*) two thousand three hundred and nine; (*c*) three thousand and seventy-four; (*d*) four thousand and fifty; (*e*) three thousand and thirty; (*f*) two thousand and ninety-six; (*g*) three thousand four hundred and fifty; (*h*) two thousand three hundred and thirty-seven.

5. Read to your friend: 3,217; 1,309; 1,057; 4,006; 2,030; 1,519; 3,273.



6. Write what each figure stands for in each of the following numbers: 2,357; 1,430; 2,057; 3,209; 1,598; 2,222. No. 1 has been done below for you.

2,357 = 2,000 (2 thousand) + 300 (3 hundred) + 50 (5 tens) + 7 units.

Exercise 3

Number (Notation). Addition

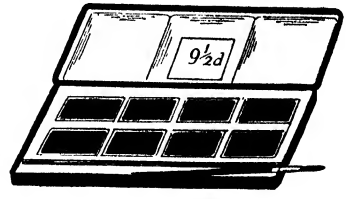
1. Read the following numbers in as many ways as you can: 271, 807, 17, 2,101, 3,356, 4,036.

2. (*a*) Write in figures: V, IV, VII, X, XIX, XXIII;
(*b*) Write in Roman numerals: 3, 6, 8, 9, 14, 26.

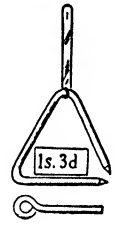
3. (*a*) Read 5th, 1st, 3rd, 22nd, 36th; (*b*) write in the shortened form: fourth, ninth, twenty-first, thirty-third.

4. Read the following dates: 1066, 1314, 1415, 1600, 1870, 1900, 1938.

ADDITION



	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)
5.	209	17	123	327	719
	76	293	216	89	115
	358	356	357	216	79
6.	3	12	27	1,257	2,117
	17	23	19	39	126
	56	136	156	536	239
	1,116	2,128	1,334	198	176
7.	17	1,315	1,376	1,253	703
	136	29	1,184	2,173	112
	1,455	356	172	916	1,315
	1,612	2,154	1,236	345	2,106

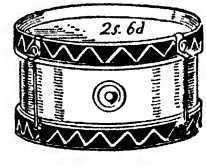


Add across:

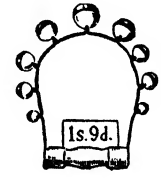
8. (*a*) 3+15+20+17. (*b*) 5+12+30+27. (*c*) 8+10+36+27.

9. (*a*) 7+23+39+18. (*b*) 12+12+50+19. (*c*) 9+50+18+25.

Add, down and across:



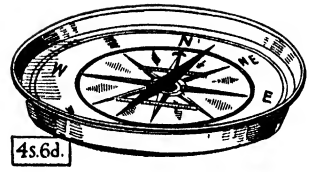
	(*a*)		(*b*)				(*a*)		(*b*)		(*c*)	
10.	17	+	23	=		14.	37	+	59	+	37	=
11.	25	+	30	=		15.	29	+	84	+	73	=
12.	18	+	37	=		16.	16	+	63	+	59	=
13.	26	+	59	=	—	17.	48	+	72	+	93	=
	—		—		—		—		—		—	—
	(*a*)		(*b*)				(*a*)		(*b*)		(*c*)	
18.	73	+	58	=		22.	23	+	34	+	52	=
19.	11	+	76	=		23.	55	+	45	+	9	=
20.	36	+	65	=		24.	88	+	56	+	73	=
21.	99	+	39	=	—	25.	73	+	67	+	18	=

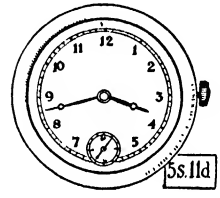


Exercise 4

Number. Subtraction

	(a)	(b)	(c)	(d)
1.	98	696	1,958	4,993
	− 26	− 235	− 327	− 2,341
2.	33	87	374	2,790
	− 7	− 59	− 127	− 1,357
3.	314	2,328	3,518	4,500
	− 173	− 1,196	− 2,468	− 2,700
4.	323	3,520	4,318	4,723
	− 176	− 1,750	− 2,626	− 2,245
5.	3,111	4,231	4,437	4,320
	− 1,234	− 1,376	− 1,569	− 3,177
6.	4,237	3,700	1,865	3,075
	− 1,964	− 1,299	− 999	− 2,986





WORD SUMS

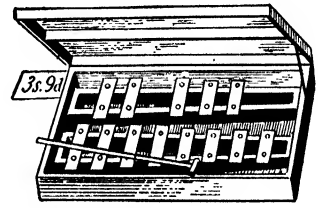
7. Subtract two thousand and eleven from three thousand four hundred and seventy.
8. Take one thousand three hundred and eighty-four from four thousand.
9. Three thousand and thirty-one minus one thousand and seventy-eight.
10. From two thousand and one take eight hundred and seventy-six.
11. Find the difference between eleven hundred and seventy-four and three thousand and twenty-six.
12. How much is one thousand and ninety-nine short of two thousand and thirty-nine?

CHECKING ANSWERS

If the answer to a subtraction sum is correct, the sum of the answer and the bottom line (take away line) should give the top line.

Work the following subtraction sums and check your answers.

	(a)	(b)
13.	2,000 − 73;	1,704 − 756.
14.	1,750 − 39;	1,856 − 1,375.
15.	3,156 − 1,273;	4,301 − 2,999.
16.	4,000 − 9;	3,201 − 199.



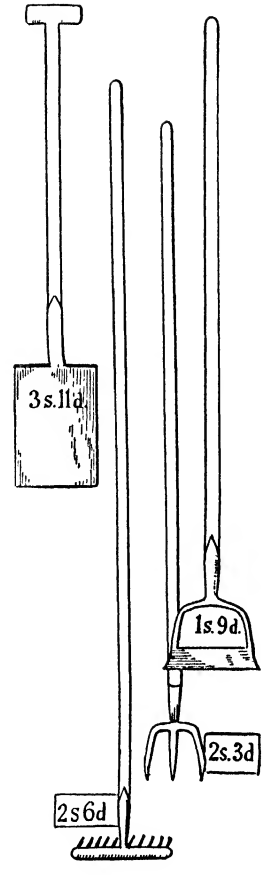
Exercise 5

Number. Multiplication

	(a)	(b)	(c)	(d)	(e)
1.	79 × 2	57 × 3	84 × 4	85 × 5	73 × 6
2.	92 × 7	67 × 8	75 × 9	34 × 10	43 × 11
3.	976 × 2	284 × 3	895 × 4	466 × 5	675 × 6
4.	293 × 7	442 × 8	453 × 9	369 × 11	357 × 12
5.	483 × 9	286 × 12	597 × 5	396 × 8	275 × 11
6.	437 × 11	395 × 12	476 × 9	387 × 7	789 × 6
7.	1,236 × 3	1,345 × 2	1,052 × 4	1,096 × 3	987 × 5

MULTIPLICATION BY 10, 20, 30, ETC.

8.	53 × 10	74 × 10	97 × 20	58 × 30	67 × 40
9.	79 × 50	83 × 60	43 × 70	36 × 80	27 × 90
10.	350 × 10	270 × 10	126 × 20	119 × 30	117 × 40

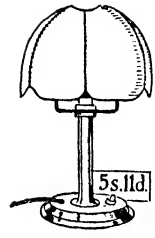


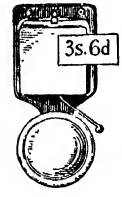
11. How many shillings are there in £2, £3, £4, £5, £10, £8, £9 (twenties)?
12. How many hundredweights (cwt.) are there in 7 tons, 9 tons, 5 tons, 10 tons (twenties)?
13. How many minutes are there in 2 hours, 5 hours, 12 hours, 17 hours, 21 hours (sixties)?
14. How many pence are there in 3 half-crowns, 7 half-crowns, 12 half-crowns, 19 half-crowns (thirties)?
15. How many florins are there in £4, £7, £9, £6, £8, £10 (tens)?
16. Find the product of three hundred and seventy-nine and twelve.
17. What are nine times five hundred and nine?
18. Multiply two hundred and twelve by nine.
19. Find twenty times one hundred and seventy-nine.
20. Find the product of thirty-three and ninety.

Exercise 6

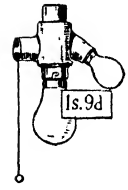
Number. Long Multiplication

	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)
1.	57 × 14	39 × 15	42 × 16	53 × 17	65 × 18
2.	75 × 21	38 × 22	45 × 23	54 × 24	66 × 25
3.	76 × 26	82 × 27	85 × 28	89 × 29	91 × 31
4.	93 × 32	95 × 33	86 × 34	78 × 35	69 × 36
5.	65 × 73	89 × 45	96 × 29	83 × 37	49 × 49
6.	123 × 15	216 × 18	221 × 17	156 × 19	227 × 16
7.	112 × 27	126 × 29	109 × 36	107 × 41	109 × 43
8.	125 × 37	106 × 43	117 × 29	215 × 18	275 × 16



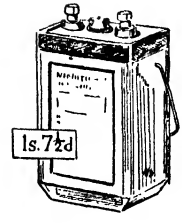


9. How many ounces in 39 lb.; 73 lb.; 89 lb.; 55 lb.; 80 lb.?
10. How many hours in 23 days; 32 days; 75 days; 96 days; 83 days?
11. Change to shillings: 72 guineas, 112 guineas, 223 guineas, 94 guineas.
12. Change to inches: 15 yards; 27 yards; 38 yards; 112 yards.
13. How many are there in 29 gross; 23 gross; 28 gross; 19 gross?
14. Find the product of one hundred and thirty-seven and nineteen.
15. Multiply two hundred and eight by twenty-one.
16. Find the number which is thirty times thirty-seven.
17. How far will a motor travel in 17 hours at the rate of 35 miles per hour?



Write answers only in the next three sums:

18. (*a*) $3 \times 4 \times 5 \times 6$; (*b*) $2 \times 5 \times 8 \times 7$.
19. (*a*) $4 \times 10 \times 3 \times 2$; (*b*) $4 \times 5 \times 6 \times 7$.
20. (*a*) $7 \times 8 \times 2 \times 10$; (*b*) $5 \times 2 \times 30 \times 3$.



Exercise 7

Number. Division

	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)
1.	9 | 327	10 | 450	8 | 329	5 | 575	7 | 352
2.	3 | 365	7 | 776	3 | 157	4 | 361	8 | 721
3.	4 | 109	9 | 909	8 | 927	7 | 856	6 | 731
4.	9 | 1,089	12 | 2,536	11 | 2,446	9 | 3,099	5 | 2,260
5.	6 | 3,172	5 | 2,800	7 | 3,256	8 | 4,089	12 | 3,472
6.	5 | 4,321	3 | 1,440	4 | 3,126	11 | 3,046	12 | 3,672
7.	2 | 2,436	3 | 3,476	4 | 4,816	3 | 4,440	2 | 3,758
8.	3 | 3,617	4 | 4,937	3 | 4,516	2 | 3,718	4 | 5,000
9.	10 | 70	10 | 80	10 | 90	10 | 100	10 | 120
10.	10 | 700	10 | 1,000	10 | 3,000	10 | 4,000	10 | 5,000
11.	10 | 691	10 | 734	10 | 956	10 | 1,329	10 | 2,731
12.	20 | 40	20 | 420	20 | 735	20 | 845	20 | 1,475
13.	30 | 690	30 | 1,024	30 | 2,164	30 | 4,731	40 | 3,156
14.	60 | 3,660	50 | 4,560	40 | 4,891	50 | 4,061	30 | 4,281

15. Find $\frac{1}{2}$ of: 38; 372; 3,714; 44; 454; 4,554.

16. Find $\frac{1}{4}$ of: 96; 980; 3,520; 4,504; 3,000; 5,000.

17. Find $\frac{1}{8}$ of: 104; 1,024; 1,336; 4,216; 4,992; 5,000.

18. Change to £. s.: 80*s.*; 120*s.*; 126*s.*; 347*s.*; 495*s.*; 900*s.* (twenties).

19. Change to hours: 120 minutes, 240 minutes, 360 minutes, 480 minutes (sixties).

20. Change to tons and cwt.: 25 cwt., 37 cwt., 47 cwt., 119 cwt., 175 cwt. (twenties).

21. Divide three hundred and seventy-five by twelve.

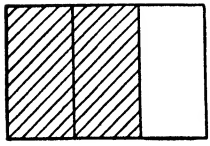
22. How many nines are there in one thousand and eight?

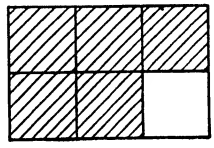
23. Share 1,350 marbles amongst 16 boys and 14 girls. How many for each?

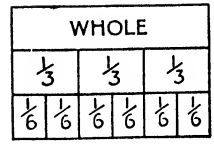
24. Divide one thousand three hundred and eighty by sixty.

Exercise 8

Thirds and Sixths







1. Into how many equal parts has the first oblong been divided? What is each part called? How many of these parts make a whole?

2. What part of the first oblong has been shaded? If I cut away the shaded part, what part is left? $1 - \frac{2}{3} = ?$.

3. Draw an oblong 4 inches by 3 inches. Draw lines to show how many square inches there are in the oblong.
   (*a*) Shade $\frac{1}{3}$ blue. $\frac{1}{3}$ of 12 square inches = ? square inches.
   (*b*) Shade $\frac{2}{3}$ red. $\frac{2}{3}$ of 12 square inches = ? square inches.

4. (*a*) $\frac{1}{3}$ of 12*s.* = ?; (*b*) $\frac{1}{3}$ of 1 yard = ?; (*c*) $\frac{1}{3}$ of £1 = ?; (*d*) $\frac{1}{3}$ of 1 hour = ?.

5. (*a*) $\frac{2}{3}$ of 9*s.* = ?; (*b*) $\frac{2}{3}$ of 1 foot = ?; (*c*) $\frac{2}{3}$ of 1 guinea = ?; (*d*) $\frac{2}{3}$ of 24 hours = ?.

6. Now look at the second oblong above. What is each part called? How many of these parts make a whole? What part has been shaded? What part is left? $1 - \frac{5}{6} = ?$.

7. If I cut away the unshaded part, what part is left? $1 - \frac{1}{6} = ?$.

8. (*a*) $1 - \frac{4}{6} = ?$; (*b*) $1 - \frac{3}{6} = ?$; (*c*) $1 - \frac{2}{6} = ?$; (*d*) $\frac{1}{6} + \frac{2}{6} = ?$; $\frac{3}{6} + \frac{2}{6} = ?$.

9. Fill in the missing figures after looking at picture three (third oblong) above.
   (*a*) $\frac{2}{6} = \frac{?}{3}$; (*b*) $\frac{4}{6} = \frac{?}{3}$; (*c*) $\frac{3}{6} = \frac{?}{6}$.

10. Show, by a drawing, the number of square inches in an oblong 4 inches long and 3 inches wide. Shade $\frac{1}{6}$ red; $\frac{1}{2}$ blue; and $\frac{1}{3}$ yellow.

11. (*a*) $\frac{1}{6}$ of 12 square inches; (*b*) $\frac{2}{3}$ of 12 square inches; (*c*) $\frac{5}{6}$ of 12 square inches.

12. (*a*) $\frac{1}{6}$ of £1 = ?; (*b*) $\frac{1}{6}$ of 1 yard = ?; (*c*) $\frac{5}{6}$ of 1 hour = ?; (*d*) $\frac{5}{6}$ of 24 hours = ?.

13. (*a*) $\frac{1}{6} + \frac{2}{6} = ?$; (*b*) $\frac{1}{3} + \frac{1}{6} = ?$; (*c*) $\frac{1}{2} + \frac{1}{6} = ?$; (*d*) $\frac{2}{3} + \frac{1}{6} = ?$.

14. (*a*) $\frac{2}{3} - \frac{1}{3} = ?$; (*b*) $\frac{5}{6} - \frac{1}{6} = ?$; (*c*) $\frac{1}{2} - \frac{1}{3} = ?$; (*d*) $\frac{2}{3} - \frac{1}{6} = ?$.

15. (*a*) $\frac{1}{4}$ of 1 guinea = ?; (*b*) $\frac{3}{8}$ of £1 = ?; (*c*) $\frac{3}{4}$ of 1 hour = ?.

Exercise 9

Revision

1. (*a*) 4,005 — 2,329; (*b*) £5. 0*s*. 0*d*. — £2. 17*s*. 10*d*.; £1. 5*s*. ÷ 3.
2. Divide 3,750 by (*a*) 3; (*b*) 5; (*c*) 9; (*d*) 12; (*e*) 20; (*f*) 60.
3. Multiply 127 by (*a*) 4; (*b*) 6; (*c*) 8; (*d*) 15; (*e*) 21.
4. Find (*a*) $\frac{1}{3}$; (*b*) $\frac{2}{3}$; (*c*) $\frac{1}{4}$; (*d*) $\frac{3}{4}$ of 1,260.
5. £1. 12*s*. $3\frac{1}{2}$*d*. + 17*s*. 9*d*. + £1. 11*s*. $4\frac{1}{2}$*d*. + 19*s*. 8*d*.
6. Multiply 7*s*. 9*d*. by (*a*) 3; (*b*) 7; (*c*) 9; (*d*) 12.
7. Divide £5. 0*s*. 0*d*. by (*a*) 4; (*b*) 6; (*c*) 8; (*d*) 12.
8. Find (*a*) $\frac{1}{8}$; (*b*) $\frac{3}{8}$; (*c*) $\frac{1}{6}$; (*d*) $\frac{5}{6}$ of £4. 16*s*.
9. (*a*) 18 gross — 18 dozen; (*b*) 3 guineas — 12 half-crowns.
10. (*a*) 184 articles at $1\frac{1}{2}$*d*. each; (*b*) 100 articles at 10 for 3*d*.
11. (*a*) $1\frac{1}{2}$ lb. of bacon at 1*s*. 3*d*. a lb. + $1\frac{1}{4}$ lb. of butter at 1*s*. 6*d*. a lb.; change from 5*s*. = ?.
12. (*a*) $5\frac{1}{2}$ lb. — $3\frac{1}{4}$ lb.; (*b*) 720 inches = ? feet; = ? yards.
13. (*a*) $\frac{1}{6} + \frac{5}{6}$; (*b*) $\frac{1}{4} + \frac{1}{2}$; (*c*) $\frac{1}{3} + \frac{1}{6}$; (*d*) $\frac{1}{2} - \frac{1}{3}$; (*e*) $\frac{3}{4} - \frac{5}{8}$.

---

14. Find the difference between £1. 13*s*. 9*d*. and 29 sixpences.
15. $\frac{1}{8}$ of a sum of money is 1*s*. $11\frac{1}{2}$*d*. What is the sum of money?
16. The distance all round a square is 52 inches. How long is each side in feet and inches.
17. The milkman has 320 customers who each take 1 pint of milk. How many gallons will he need to serve them?
18. The bus started on its journey at 2.45 and finished at 3.25. How many minutes did it take?
19. Draw a rectangle 5 inches by 3 inches. How many square inches are there in it? Now draw a rectangle twice as big and say how many square inches there are in it.
20. Change (*a*) to pence, 3*s*. 5*d*.; (*b*) to pence, 33 farthings; (*c*) to £. *s*., 151 shillings.
21. (*a*) $\frac{2}{3}$ of 1 hour = ?; (*b*) $\frac{5}{6}$ of 30*s*. = ?; (*c*) $\frac{5}{8}$ of 1 lb. = ?.

Exercise 10

Easy Reduction

Change to pence:

	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)	(*g*)
1.	11	19	13	17	15	23	18 halfpence.
2.	22	29	31	42	46	37	48 farthings.

Change to *s. d.*:

3.	17	39	18	74	52	96	100 pence.
4.	83	75	29	110	133	78	127 pence.
5.	159	175	199	187	231	227	235 pence.
6.	27	39	25	28	33	37	31 sixpences.
7.	51	63	57	72	49	55	79 threepences.

Change to £. *s.*:

8.	45	53	77	97	126	157	118 shillings.
9.	57	49	89	77	139	176	195 shillings.

Reduce to ounces:

10.	1 lb. 11 oz.	2 lb. 9 oz.	3 lb. 10 oz.	4 lb. 6 oz.	5 lb. 11 oz.	6 lb. 3 oz.
11.	4 lb. 9 oz.	3 lb. 2 oz.	4 lb. 11 oz.	5 lb. 13 oz.	16 lb.	21 lb. 3 oz.
12.	$3\frac{1}{4}$ lb.	$4\frac{1}{2}$ lb.	$7\frac{3}{4}$ lb.	$12\frac{1}{2}$ lb.	$19\frac{1}{4}$ lb.	9 lb. 7 oz.

Change:

		(*a*)	(*b*)	(*c*)	(*d*)	(*e*)
13.	to quarts:	7 gall.	12 gall.	19 gall.	18 gall.	$32\frac{1}{2}$ gall.
14.	to pints:	9 gall.	17 gall.	$5\frac{1}{2}$ gall.	$7\frac{1}{4}$ gall.	$6\frac{3}{4}$ gall.
15.	to quarts:	22 pints	142 pt.	270 pt.	121 pt.	137 pt.
16.	to gall.:	44 quarts	115 qt.	172 qt.	320 qt.	256 qt.
17.	to gall.:	160 pints	172 pt.	218 pt.	320 pt.	117 pt.

Change:

18.	to pence:	1*s.* 11*d.*	2*s.* 9*d.*	11*s.* 6*d.*	5*s.* 9*d.*	10*s.* 9*d.*
19.	to shillings:	£1. 5*s.*	£2. 7*s.*	£3. 15*s.*	£4. 19*s.*	£7. 11*s.*

Exercise 11

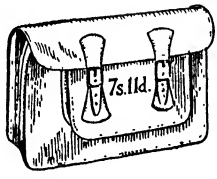
Money. Addition and Subtraction

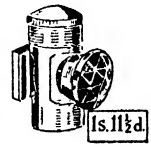
A. ADDITION

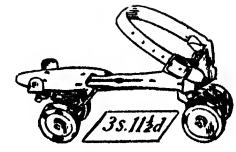
	(a) £ s. d.	(b) £ s. d.	(c) £ s. d.	(d) £ s. d.	(e) £ s. d.
1.	19 6 3 9 8 11	13 10 14 6 15 9	15 $5\frac{1}{2}$ 3 $7\frac{1}{2}$ 2 9	12 $5\frac{1}{4}$ 3 $9\frac{1}{2}$ 13 $2\frac{1}{4}$	17 $4\frac{1}{2}$ 18 $5\frac{1}{2}$ 19 $5\frac{1}{2}$
2.	1 12 3 3 9 14 6	2 11 5 8 9 15 7	1 15 11 15 9 14 $10\frac{1}{2}$	13 $5\frac{1}{4}$ 12 $7\frac{3}{4}$ 19 $6\frac{1}{2}$	14 $7\frac{3}{4}$ 13 $8\frac{3}{4}$ 16 $9\frac{3}{4}$
3.	2 3 6 4 17 11 9 10 3 8 6	4 12 4 7 3 6 1 16 9 1 12 3	17 8 9 1 3 $11\frac{1}{2}$ 17 $8\frac{1}{2}$ 11 9	24 2 7 13 $8\frac{1}{4}$ 15 9 2 11 $7\frac{1}{4}$	1 18 $6\frac{1}{2}$ 14 $9\frac{1}{2}$ 15 $7\frac{1}{2}$ 13 $11\frac{1}{2}$
4.	19 12 6 11 17 9 1 18 6 1 13 4	21 13 9 19 11 6 2 13 11 1 17 8	12 18 $7\frac{1}{2}$ 13 15 $1\frac{1}{2}$ 9 17 $6\frac{1}{4}$ 3 11 $8\frac{1}{4}$	27 5 $6\frac{1}{2}$ 8 7 $4\frac{1}{4}$ 11 17 $7\frac{3}{4}$ 6 11 $8\frac{1}{4}$	7 9 $5\frac{1}{2}$ 12 19 $8\frac{1}{4}$ 6 13 $5\frac{1}{2}$ 23 17 $8\frac{3}{4}$

B. SUBTRACTION

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
5.	13 15 9 12 13 8	15 17 4 11 9 9	21 19 8 16 12 11	17 11 10 14 15 8	15 9 11 11 13 7
6.	12 7 5 9 13 8	22 6 9 18 14 10	33 8 10 29 19 11	42 9 7 33 18 8	17 $8\frac{1}{2}$ 3 $9\frac{3}{4}$
7.	32 17 6 25 18 9	42 15 5 37 16 8	31 17 3 24 18 7	47 13 9 42 18 11	1 17 $7\frac{1}{4}$ 19 $8\frac{1}{2}$
8.	27 13 5 9 14 6	32 17 3 9 19 5	43 18 1 7 19 11	48 12 3 8 13 4	1 13 $5\frac{1}{2}$ 17 $6\frac{3}{4}$
9.	38 4 9 19 5 10	41 13 9 27 14 8	40 0 0 17 13 9	42 13 7 18 14 10	5 12 $3\frac{1}{2}$ 1 13 $4\frac{1}{2}$







Exercise 12

Money. Multiplication and Division

A. MULTIPLICATION

	(a) £ s. d.	(b) £ s. d.	(c) £ s. d.	(d) £ s. d.	(e) £ s. d.
1.	6 4 × 11	7 6 × 12	9 4 × 8	15 3 × 9	10 $7\frac{1}{2}$ × 5
2.	7 $2\frac{1}{2}$ × 8	17 $5\frac{1}{2}$ × 9	19 $3\frac{1}{4}$ × 10	15 $4\frac{3}{4}$ × 7	13 $4\frac{1}{2}$ × 9
3.	1 3 4 × 4	1 5 $6\frac{1}{2}$ × 3	1 2 $2\frac{1}{2}$ × 9	1 3 $5\frac{1}{4}$ × 5	2 7 7 × 6
4.	8 3 $3\frac{1}{2}$ × 6	7 2 $1\frac{1}{2}$ × 7	4 3 6 × 12	10 $7\frac{1}{2}$ × 11	17 $11\frac{1}{2}$ × 8
5.	1 3 7 × 8	2 2 9 × 9	3 3 7 × 6	1 3 9 × 12	19 $4\frac{1}{2}$ × 12

B. DIVISION

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
6.	2 | 8 12 6	3 | 18 5 0	4 | 12 17 4	5 | 10 16 3	10 | 15 5
7.	6 | 1 17 0	7 | 1 16 2	8 | 9 6 0	9 | 19 10 9	9 | 14 $5\frac{1}{4}$
8.	6 | 8 0 0	7 | 9 2 7	8 | 11 6 8	9 | 31 1 9	11 | 1 10 $8\frac{1}{2}$
9.	9 | 1 4 $2\frac{1}{4}$	10 | 1 4 7	7 | 1 1 $8\frac{3}{4}$	5 | 1 3 $6\frac{1}{2}$	11 | 1 4 $0\frac{3}{4}$
10.	9 | 49 5 6	8 | 35 15 4	9 | 21 4 6	7 | 44 4 4	8 | 43 10 8

C. MISCELLANEOUS

11. Find the sum of £12. 3*s.* $7\frac{1}{4}$*d.*, 5 guineas, and three £5 notes.
12. What is the difference between £40. 3*s.* 7*d.* and £20. 2*s.* 9*d.*?
13. Find the product of £1. 2*s.* 6*d.* and 9.
14. Divide £11. 4*s.* 7*d.* by 10.
15. Find the sum of three £10 notes, seven 10*s.* notes, and 6 half-crowns.
16. After spending £1. 12*s.* 6*d.* and £2. 13*s.* 9*d.*, I had 7 guineas left. How much had I at first?
17. How much short of £40 is the sum of £10. 13*s.* 7*d.* and £15. 12*s.* $9\frac{1}{2}$*d.*?
18. Share £43. 15*s.* 4*d.* equally among 5 men and 3 women. How much for each person?

Exercise 13

Length and Scale. Practical Work

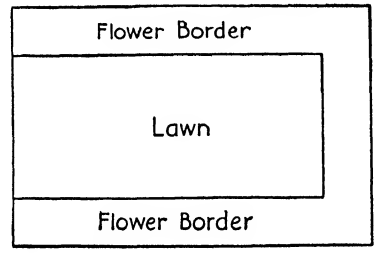
1. Draw a line as long as the sum of lines AB and CD.

A ——— B C ——— D

2. Measure the length and width of your teacher's table in feet and inches. Find the difference between the length and the width. How far is it all round the table?
3. My table at home is 4 feet 6 inches long and 2 feet 9 inches wide. What is the difference between the length and the width? How far is it all round?
4. Change to inches: (*a*) 1 ft. 9 in.; (*b*) 3 ft. 5 in.; (*c*) 4 ft. 9 in.; (*d*) 5 ft. 7 in.; (*e*) 7 ft. 11 in.; (*f*) 10 ft. 5 in.; (*g*) 12 ft. 9 in.
5. Change to feet and inches: (*a*) 25 in.; (*b*) 39 in.; (*c*) 57 in.; (*d*) 64 in.; (*e*) 79 in.; (*f*) 87 in.; (*g*) 119 in.
6. Change first to feet, and then to inches: (*a*) 3 yd.; (*b*) 3 yd. 1 ft.; (*c*) 4 yd. 2 ft.; (*d*) 6 yd.; (*e*) 7 yd. 1 ft.; (*f*) 8 yd. 2 ft.
7. (*a*) How tall are you in feet and inches? (*b*) in inches? (*c*) Who is the taller, you or your friend? By how many inches?
8. (*a*) John is 3 ft. 11 in. tall. How many inches is that? (*b*) Tom is 4 ft. $1\frac{1}{2}$ in. tall. How many inches is that? (*c*) How much taller is Tom than John?
9. If $\frac{1}{4}$ inch stands for 1 mile, find the length represented by the line AB.

A ——— B

10. The drawing shows a garden. If $\frac{1}{8}$ of an inch stands for 1 yard, find (*a*) the length of the garden; (*b*) the width of the garden. (*c*) How far is it all round the garden? Give answer (*c*) in feet.
11. How many feet is it all round the lawn?
12. How wide (*a*) in yards; (*b*) in feet, is the flower border?
13. How far across is a halfpenny? A straight line of halfpennies touching one another totals 3 shillings. How long is the line (*a*) in feet? (*b*) in yards?



14. If line AB stands for 1 yard, what length will line CD stand for?

A ——— B

C ——— D

15. On a certain map, 1 inch stands for 25 miles. How many miles are represented by (*a*) $\frac{1}{4}$ inch; (*b*) $1\frac{1}{2}$ inches; (*c*) $2\frac{3}{4}$ inches?

Exercise 14

Money. Revision

1. Add: 13*s.* 8½*d.*, 17*s.* 9¾*d.*, 15*s.* 11½*d.*, and 18*s.* 7¾*d.*

2. Add: £3. 18*s.* 3*d.*, £4. 19*s.* 8*d.*, £7. 13*s.* 4*d.*, and £11. 18*s.* 5*d.*

3. (*a*) Take 13*s.* 8½*d.* from 19*s.* 7¼*d.*; (*b*) 121*d.* = ?

4. Take £18. 17*s.* 10*d.* from £40. 0*s.* 0½*d.*

5. (*a*) £1. 2*s.* 9*d.* × 11; (*b*) 7 chairs at 14*s.* 11½*d.* each = ?

6. (*a*) £13. 14*s.* 0*d.* ÷ 12; (*b*) one-ninth of £31. 5*s.* 6*d.*

7. 23 halfpennies + 27 pennies + 24 threehalfpence = ?

8. 7 articles at 1*s.* 11½*d.* each + 8 articles at 2*s.* 5½*d.* each = ?

9. 1½ lb. of bacon at 1*s.* 11*d.* a lb. + 2¾ lb. of butter at 1*s.* 6*d.* a lb. Change out of £1 = ?

10. 39 pennies + 5 threepences + 4 half-crowns + five 10*s.* notes + three £1 notes = ?

11. Buy 9 rugs at 17*s.* 11½*d.* Change out of two £5 notes = ?

12. (*a*) 11 cwt. of coal at 1*s.* 10*d.* per cwt.; (*b*) change out of £1. 10*s.* = ?

13. (*a*) 17*s.* 7½*d.* ÷ 9; (*b*) 179*d.* = ?; (*c*) £1. 4*s.* 6*d.* + ½ of £1. 4*s.* 6*d.*

14. Take £11. 13*s.* 10*d.* + £19. 5*s.* 5*d.* from £50.

15. (*a*) Spend 17*s.* 5½*d.* + 5*s.* 9½*d.* + 2*s.* 8*d.* + 12*s.* 9*d.* (*b*) Change from £5 note = ?.

16. (*a*) 12*s.* 6½*d.* × 7; (*b*) 12*s.* 6½*d.* ÷ 7; (*c*) Take answer (*b*) from answer (*a*).

17. (*a*) 121*d.* = ?; (*b*) 23 stamps at 1*d.* + 23 stamps at ½*d.*

18. Mother takes 3 loaves each day for 6 days. Find her bread-bill for 6 days, if each loaf costs 4*d.*

19. The wages of 9 boys and 1 man are £11. 4*s.* 2*d.* How much is that for each boy, if the man's wages are £4. 1*s.* 8*d.*?

20.

		s.	*d.*
(*a*)	¼ lb. of chocolates at 2*s.* 8*d.* a lb. =		
	2 oz. of sweets at 1*s.* 4*d.* a lb. =		
	½ lb. of creams at 1*s.* 10*d.* a lb. =		
	Total =		
		s.	*d.*
(*b*)	2½ lb. of rice at 4*d.* a lb. =		
	8 lb. of sugar at 2 lb. for 4½*d.* =		
	¼ stone of flour at 2*s.* 2*d.* a stone =		
	Total =		

Exercise 15

Revision

1. (*a*) 327 + 94 + 1,347 + 999; (*b*) 97 × 28; (*c*) 3,050 − 487; (*d*) 12 | 1,976.
2. Find (*a*) $7\frac{1}{4}$ times 128; (*b*) $3\frac{1}{8}$ times 12*s.* 6*d.*
3. Find the sum of: 17*s.* $3\frac{1}{2}$*d.*; 15*s.* 9*d.*; 11*s.* $8\frac{3}{4}$*d.*; and 9*s.* $10\frac{1}{2}$*d.*
4. How many farthings are there in $7\frac{1}{2}$*d.* + $3\frac{1}{4}$*d.* + $4\frac{3}{4}$*d.*?
5. Change (*a*) 59*s.* to £. *s.*; (*b*) 105*d.* to *s.* *d.*; (*c*) 59 threepences to *s.* *d.*
6. Change (*a*) 18 lb. 12 oz. to ounces; (*b*) 7 gall. 1 qt. to pints; (*c*) 11 ft. 9 in. to inches.
7. Write down the value of (*a*) VII; (*b*) IX; (*c*) XVI; (*d*) XXX.
8. Write in Roman Numerals: 4, 6, 15, 19, 21.
9. (*a*) From 12 lb. take 5 lb. 11 oz.; (*b*) From 1 yard take 1 foot 9 inches.
10. (*a*) $\frac{1}{2} + \frac{1}{4}$; (*b*) $\frac{5}{8} - \frac{1}{2}$; (*c*) $\frac{5}{6} - \frac{1}{2}$; (*d*) $\frac{1}{2} - \frac{1}{4}$; (*e*) $\frac{1}{2} + \frac{3}{8}$.
11. (*a*)

		s.	*d.*
2 sets of wickets at 3*s.* 11*d.* a set	=		
2 cricket balls at 2*s.* 9*d.* each	=		
2 bats at 12*s.* 9*d.* each	=		
Total	=		

(*b*)

		s.	*d.*
$\frac{1}{2}$ dozen reels of cotton at $5\frac{1}{2}$*d.* each	=		
$\frac{1}{2}$ dozen knots of tape at 1*s.* 7*d.* a doz.	=		
2 dozen packets of needles at 2*d.* each	=		
Total	=		

12. (*a*) 4,108 − 3,009; (*b*) 97 × 30.
13. From £30 take £18. 12*s.* 6*d.* + £7. 13*s.* 9*d.*
14. Add (*a*) the odd numbers; (*b*) the even numbers in: 13; 127; 200; 1,721; 1,824; 9; 1,500.
15. How many minutes are there from (*a*) 10 minutes to 3 to a quarter to 4? (*b*) 7 minutes past 5 to 20 minutes to 6? (*c*) a quarter past 3 to a quarter to 4?
16. Write in fraction form: (*a*) three-quarters; (*b*) one-half; (*c*) two-thirds; (*d*) five-eighths; (*e*) five-sixths.
17. A motor travels at 37 miles per hour. How far will it travel from 2.30 to 4 o'clock?
18. A grocer bought 1 gross of eggs. One in every dozen was bad. How many were sound?

Exercise 16

Shopping

TO-DAY'S PRICES			
Fresh butter, per lb.	1*s.* 6*d.*	Bacon (back), per lb.	1*s.* 4*d.*
Danish butter, per lb.	1*s.* 5*d.*	Bacon (Empire), per lb.	1*s.* 1*d.*
Margarine, per lb.	9*d.*	Sugar, per lb.	2½*d.*
New-laid eggs, per dozen	1*s.* 9*d.*	Currants, per lb.	10*d.*
Danish eggs, per dozen	1*s.* 5*d.*	Rice, per lb.	5*d.*
Tea, per lb.	2*s.* 10*d.*	Potatoes, per 14 lb.	1*s.* 0*d.*
Coffee, per lb.	2*s.* 8*d.*	Cheese, per lb.	9*d.*

(*a*) How much would each bill amount to? (*b*) Find the change from £1 after paying each bill.

1. ½ lb. of fresh butter.
   ¼ lb. of tea.
   7 lb. of potatoes.
   ½ lb. of bacon (back).

2. 2 dozen eggs (new laid).
   ¾ lb. of fresh butter.
   ¾ lb. of tea.
   ½ lb. of margarine.

3. 1¼ lb. of fresh butter.
   ¼ lb. of tea.
   1½ lb. of cheese.
   3½ lb. of potatoes.

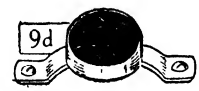
4. ½ lb. of bacon (Empire).
   6 lb. of sugar.
   1¼ lb. of currants.
   ½ lb. of rice.

5. 1½ lb. of margarine.
   1½ dozen eggs (Danish).
   ¼ lb. of coffee.
   1½ lb. of butter (Danish).

6. 1½ dozen eggs (new laid).
   ¾ lb. of coffee.
   ¾ lb. of bacon (back).
   ¼ lb. of tea.

7. 2½ lb. of cheese.
   14 lb. of sugar.
   2½ lb. of rice.
   ¼ lb. of tea.

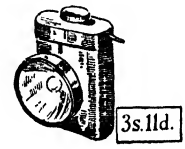
8. 1½ lb. of bacon (back).
   1½ lb. of bacon (Empire).
   ½ dozen eggs (Danish).
   21 lb. of potatoes.



Fill in the missing quantities or amounts and then find the amount of the bill.

	s.	*d.*
9. ? bacon	= 8	
? coffee	= 2	0
¼ lb. of tea	= ?	

	s.	*d.*
10. ? cheese	= 4½	
? potatoes	= 6	
¼ lb. of bacon (back)	= ?	



Exercise 17

Number and Money. Revision

A. NUMBER

1. Add: 306; 2,004; and 83.
2. Take: 1,207 from 3,001.
3. 96×34.
4. $1{,}137 \div 12$.
5. $374 + 374 + 374 + 374 + 374$.
6. $4{,}764 \div 12$.
7. Multiply $378 + 372$ by $378 - 372$.
8. Find $\frac{1}{8}$ of $(4{,}000 - 8)$.
9. $1{,}969 \div 11$.
10. 120×36.
11. $2{,}101 \div 9$.
12. $3{,}103 - 1{,}711$.
13. $179 + 179 + 179 + 179 + 179$.
14. $\frac{5}{6}$ of $1{,}584 + \frac{1}{3}$ of $1{,}998$.
15. $4{,}013 - 737$.
16. 376×11.
17. How many years have passed since (*a*) 1066; (*b*) 1820?
18. In 1938 I was 54 years of age. When was I born?
19. Lead pencils are packed in boxes holding 1 gross. How many pencils are there in 2 dozen boxes?
20. Subtract in columns and rows:

8,972	7,603
3,177	1,987

B. MONEY

1. Add: £1. 12*s.* 6*d.*; £12. 9*s.* 7*d.*; £13. 11*s.* $8\frac{1}{2}d.$; and 37 sixpences.
2. From £1. 12*s.* $7\frac{1}{2}d.$ take 15*s.* $10\frac{3}{4}d.$
3. 9*s.* 8*d.* $\times 3\frac{1}{8}$.
4. $\frac{5}{8}$ of £1. 6*s.*
5. 39 halfpence + 79*d.* + 25 three-halfpence.
6. Spend 3*s.* 9*d.* + 6*s.* 4*d.* + £1. 7*s.* 9*d.* Change from £2 = ?.
7. $3\frac{1}{2}$ lb. of beef at 1*s.* 8*d.* a lb.
8. 1,000 postcards at 10 a 1*d.*
9. 7 writing pads at $10\frac{1}{2}d.$ each.
10. 8*d.* $\times$ 39.
11. £2. 0*s.* 0*d.* — $\frac{3}{4}$ of £2. 0*s.* 0*d.*
12. Change (*a*) to farthings, $7\frac{3}{4}d.$; (*b*) to shillings, £7. 13*s.*
13. Change (*a*) to *s. d.*, 39*d.*; (*b*) to £. *s.*, 117 shillings.
14. $19\frac{1}{2}$ hours' work at 5*d.* an hour = ?
15. £7. 3*s.* 6*d.* — £1. 2*s.* $9\frac{1}{2}d.$
16. $\frac{2}{3}$ of £1. 13*s.* $10\frac{1}{2}d.$
17. Find the sum of *two* £10 notes, *three* £1 notes, *seven* 10*s.* notes, and 101*d.*
18. I spent 3*s.* $7\frac{1}{2}d.$, 7*s.* $11\frac{1}{2}d.$, and had 5*s.* $9\frac{1}{2}d.$ left. How much had I at first?
19. (*a*) 1 gross of pencils at 9*d.* a dozen.
    (*b*) $2\frac{1}{4}$ dozen eggs at $1\frac{1}{2}d.$ each.
    (*c*) $1\frac{3}{4}$ lb. of bacon at 1*s.* 6*d.* a lb.

Exercise 18

Area. Square Inch; Square Foot; Square Yard

1. Draw a rectangle 2 inches long and $\frac{1}{2}$ an inch wide. Draw lines to show the number of square inches it covers. Area $= \frac{1}{2} \times 2$ square inches.

2. Draw a rectangle $3\frac{1}{2}$ inches by 2 inches. Find its area by drawing lines. Area $= 3\frac{1}{2} \times 2$ square inches.

3. Find, by a drawing, the area of a 5-inch square of paper. Area $= 5 \times 5$ square inches.

4. Find the areas of the following oblongs (rectangles).
   (*a*) Length, 4 inches; width, 3 inches;
   (*b*) Length, 6 inches; width, 4 inches;
   (*c*) Length, 5 inches; width, $2\frac{1}{2}$ inches;
   (*d*) Length, 12 inches; width, 7 inches.

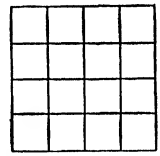


Fig. 1 (Square)

5. Figs. 1 and 2 show a square and a rectangle having equal areas. Each small square in both figures stands for 1 square foot.

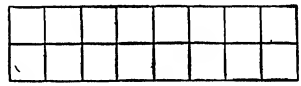


Fig. 2 (Rectangle)

(*a*) What is the length of the square?
(*b*) What is its area?

Area of square $= 4 \times 4$ square feet.
$= 16$ square feet.

(*c*) What is the length of the rectangle?
(*d*) What is the width of the rectangle?

Area of rectangle $= 8 \times 2$ square feet.
$= 16$ square feet.

6. Let each square in your exercise book stand for 1 square foot and draw a square covering 36 square feet. Then draw a rectangle which has the same area as the square.

   Now complete (*a*) and (*b*) below.

(*a*)	(*b*)
Length of square = ?.	Length of rectangle = ?; Width of rectangle = ?.
Area of square = ?.	Area of rectangle = ?.

7. Find the area of the following rectangles: (*a*) 4 ft. by 3 ft.; (*b*) 6 ft. by 2 ft.; (*c*) 8 ft. by 7 ft.

8. Estimate the area of the top of your desk. Test by means of your teacher's square foot.

9. What is the area of a table top 6 feet by 4 feet?

10. Find (*a*) the area, in square yards, of the garden, p. 13, number 10; (*b*) the area, in square yards, of the grass plot (lawn); (*c*) the area of the border.

Exercise 19

Number and Notation. Addition

1. Read to your neighbour: 3,726; 109; 5,001; 7,356; 8,999; 9,197.
2. Which of the numbers in number 1 are even numbers?
3. Write what each figure stands for in each number in sum 1.
4. Read in as many ways as you can, each number in sum 1.
5. Write in figures: XXIV; XXXIX; XLVI; LXXII; XC.
6. Write in Roman Numerals: 32, 55, 79, 110, 64.
7. (*a*) Read: 22nd; 31st; 19th; (*b*) write in the shortened form: seventeenth; twenty-first; eighteenth; thirtieth; seventh.
8. What is the value of the pair of figures underlined: 1<u>72</u>; 2<u>17</u>; 1<u>,729</u>?
9. 300×10; 25×100; $7 \times 1{,}000$; 18×20; 17×500.
10. Write in figures the following numbers, and find their sum: Thirty-three; one hundred and seventeen; three hundred and nine; two thousand and twenty-nine.

Add, in columns and rows:

	(*a*)	(*b*)
11.	73 + 56 + 121 =	273 + 348 + 97 =
12.	34 + 89 + 39 =	265 + 179 + 165 =
13.	19 + 43 + 116 =	137 + 269 + 371 =
14.	27 + 19 + 78 =	184 + 138 + 279 =
15.	Totals ___ ___ ___ = ___	Totals ___ ___ ___ = ___

	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)
16.	1,902	1,356	1,373	3,216	1,976	4,379
	+ 796	+ 784	+ 856	+ 715	+ 843	+ 156
	+ 2,159	+ 2,153	+ 1,119	+ 1,316	+ 2,315	+ 1,134
	+ 3,119	+ 3,116	+ 976	+ 2,175	+ 2,176	+ 2,295

17. Find the sum of two thousand two hundred and three, three thousand eight hundred and eleven, two thousand and six, and three hundred and sixteen.
18. How many hundreds make five thousand?
19. In one town there are three thousand and ten girls and half as many boys. How many boys and girls together are there?

Exercise 20

Number. Subtraction and Multiplication

A. SUBTRACTION

Work the following sums and check your answers:

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1.	7,453	6,253	9,870	8,623	7,111	9,127	3,001
	− 4,948	− 3,296	− 3,894	− 989	− 496	− 2,018	− 273

Subtract, in columns and in rows, and check your answers:

		(a)	(b)	(c)	(d)	(e)	(f)
2.	(i)	8,494	6,923	9,483	3,628	9,117	7,129
	(ii)	7,435	3,256	7,809	1,976	3,694	1,082
3.	(i)	7,717	7,166	5,217	2,378	9,316	6,139
	(ii)	3,888	1,749	1,719	199	7,887	4,777

4. Find the difference between one thousand and one, and thirteen.
5. What must be added to one to make nine thousand?
6. Take the smallest from the greatest; one thousand three hundred and six; 1,316; four thousand and nine; 4,019.
7. (*a*) 3,109 − 999; (*b*) 1,015 − 887; (*c*) 7,001 − 19; (*d*) 9,315 − 756.

B. MULTIPLICATION

8. Multiply 789 by (*a*) 4; (*b*) 5; (*c*) 6; (*d*) 7; (*e*) 8; (*f*) 9; (*g*) 11; (*h*) 12.

	(a)	(b)	(c)	(d)	(e)	(f)
9.	72 × 33	84 × 37	95 × 38	47 × 36	116 × 36	101 × 18
10.	99 × 87	93 × 95	96 × 39	89 × 76	154 × 56	197 × 43
11.	573 × 15	470 × 20	238 × 37	506 × 18	190 × 39	225 × 40
12.	409 × 17	360 × 29	278 × 32	205 × 36	503 × 19	439 × 15

13. Change to inches: 19 yards; 38 yards; 29 yards; 135 yards.
14. Change to ounces: 121 lb.; 137 lb.; 289 lb.; 578 lb.
15. Find the product of three hundred and seventeen and twenty-nine.
16. Find the number which is nineteen times five hundred and six.
17. How many eggs are there altogether in 4 dozen boxes, if each box holds 180?
18. A man weighs $14\frac{1}{2}$ stones. How many lb. is that? (14 lb. = 1 stone.)
19. (*a*) (3,715 − 3,179) × 18; (*b*) (9,001 − 8,712) × 27.

Exercise 21

Simple Long Division. An Introduction

Work these sums as shown in Example 1:

	(*a*)	(*b*)	(*c*)	(*d*)
1.	369 ÷ 3	639 ÷ 3	936 ÷ 3	963 ÷ 3
2.	482 ÷ 2	284 ÷ 2	842 ÷ 2	824 ÷ 2

Work these sums as shown in Example 2:

3.	597 ÷ 3	1,768 ÷ 4	6,265 ÷ 5	8,832 ÷ 6
4.	8,904 ÷ 7	9,936 ÷ 8	7,950 ÷ 6	9,835 ÷ 5

Work these sums as shown in Example 3:

5.	744 ÷ 8	649 ÷ 11	5,868 ÷ 9	2,724 ÷ 12
6.	4,973 ÷ 12	6,372 ÷ 11	5,756 ÷ 10	7,136 ÷ 9
7.	5,921 ÷ 7	4,732 ÷ 6	5,516 ÷ 8	4,279 ÷ 12

Work these sums as shown in Example 4:

8.	900 ÷ 20	700 ÷ 20	500 ÷ 20	300 ÷ 20
9.	320 ÷ 20	360 ÷ 20	380 ÷ 20	420 ÷ 20
10.	330 ÷ 30	360 ÷ 30	390 ÷ 30	420 ÷ 30
11.	480 ÷ 40	520 ÷ 40	600 ÷ 40	720 ÷ 40
12.	660 ÷ 60	720 ÷ 60	840 ÷ 60	700 ÷ 50

Work these sums two ways as shown in Examples 5a and 5b:

13.	2,667 ÷ 20	6,349 ÷ 30	4,462 ÷ 40	5,621 ÷ 50
14.	5,072 ÷ 20	9,673 ÷ 30	7,901 ÷ 70	9,000 ÷ 80
15.	6,672 ÷ 60	6,214 ÷ 40	8,317 ÷ 60	7,298 ÷ 50
16.	4,961 ÷ 30	7,066 ÷ 50	9,217 ÷ 80	5,276 ÷ 40

Work these sums as shown in Example 6:

17.	631 ÷ 70	548 ÷ 90	275 ÷ 30	147 ÷ 20
18.	456 ÷ 90	326 ÷ 80	251 ÷ 50	280 ÷ 40
19.	817 ÷ 90	210 ÷ 30	643 ÷ 80	420 ÷ 70

Example 1

```
  342
2)684
  6
  8
  8
  -
  4
  4
  -
```

Example 2

```
  264
3)792
  6
  -
  19
  18
  --
  12
  12
  --
```

Example 3

```
   745
11)8195
   77
   --
   49
   44
   --
   55
   55
   --
```

Example 4

```
  17
20)340
  20
  --
  140
  140
  ---
```

Example 5a

```
30 | 643⅞
     214    17(R)
```

Example 5b

```
   214
30)6437
   60
   --
   43
   30
   --
   137
   120
   ---
    17  over.
```

Example 6

```
   7
40)287
   280
   ---
     7  over.
```

Exercise 22

Simple Long Division

A

	(a)	(b)	(c)	(d)	(e)	(f)
1.	21)42	21)84	31)62	31)93	21)84	21)63
2.	21)441	21)882	31)651	31)992	41)861	21)693
3.	21)336	41)779	51)867	31)372	41)779	51)969
4.	21)483	51)612	31)682	41)451	61)854	81)972
5.	32)864	23)368	24)552	43)946	42)924	52)728
6.	33)396	43)559	34)510	22)528	23)759	44)968

B

7.	28)112	37)185	29)145	34)272	25)225	19)133
8.	35)245	26)234	37)222	46)368	27)108	18)108
9.	47)329	36)288	17)153	46)414	39)312	45)360
10.	47)281	36)212	38)189	25)219	79)351	37)213
11.	28)103	26)123	47)321	19)151	35)269	68)551

C

12.	35)2,975	57)4,902	38)2,014	49)3,626	64)4,352
13.	34)2,824	72)4,201	25)1,789	29)1,219	87)5,613
14.	52)932	32)771	24)384	43)511	47)981
15.	62)927	57)736	48)816	53)631	75)893
16.	33)1,726	43)1,119	78)3,843	75)3,164	28)2,171
17.	25)1,759	57)3,106	89)8,137	39)2,371	36)2,917
18.	32)437	19)1,174	43)596	15)1,297	72)819

19. How many yards are there in 432 inches?

20. How many days are there in 768 hours? (24 hours = 1 day.)

21. A boy had 689 cigarette pictures in sets. How many were there in each set, if he had 13 sets?

22. How many rows of cabbages can a gardener plant with 3,240 plants, if he puts 72 in a row?

23. How many boxes will be required for 1,296 eggs, if each box holds 4 dozen?

Exercise 23

Revision

	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)
1.	3,009	3,851	3,268	3,915	2,323
	− 1,007	− 2,738	− 1,735	− 1,636	− 786

Work the following subtraction sums and check your answers:

2.	4,506	3,000	1,000	5,000	4,326
	− 1,379	− 1,908	− 19	− 10	− 2,577

Change:

	(*a*)	(*b*)	(*c*)
3.	22 halfpence to pence.	19 farthings to pence.	79*d.* to *s. d.*
4.	143 pence to *s. d.*	39 sixpences to *s. d.*	67 threepences to *s. d.*
5.	7 lb. 5 oz. to oz.	37 lb. to oz.	$18\frac{1}{2}$ lb. to oz.
6.	$29\frac{1}{4}$ gall. to qt.	$19\frac{1}{2}$ gall. to pints.	195 pt. to quarts.
7.	137 qt. to gall.	156 pt. to gall.	£8. 13*s.* to shillings.

	£ *s. d.*	£ *s. d.*	£ *s. d.*	£ *s. d.*	£ *s. d.*
8.	17 8	12 $9\frac{1}{2}$	1 8 9	1 4 9	2 5 7
	× 7	× 11	× 3	× 12	× 6

	s. d.	*s. d.*	£ *s. d.*	£ *s. d.*	£ *s. d.*
9.	9 | 15 $11\frac{1}{4}$	10 | 16 3	10 | 25 7 6	12 | 1 8 6	5 | 32 12 6

10.	95 × 74	77 × 66	138 × 49	176 × 50	110 × 40

Subtract, in columns and in rows, and check your answers:

		(*a*)	(*b*)	(*c*)	(*d*)
11.	(i)	3,216	2,010	8,972	7,603
	(ii)	2,377	2,001	3,177	1,987

12. (*a*) 1,276 + 19 + 756 + 4,328; (*b*) 8,017 − 4,999; (*c*) 4,608 ÷ 96.

13. (*a*) 1,259 ÷ 37; (*b*) 811 ÷ 68; (*c*) 816 ÷ 69; (*d*) 2,973 ÷ 34; (*e*) 3,176 ÷ 45.

14. (*a*) 3,010 − 300; (*b*) 125 × 41; (*c*) 896 ÷ 78.

Exercise 24

Revision

1. (*a*) 8,031 − 3,456; (*b*) 172 × 49; (*c*) 1,222 ÷ 34.

2. (*a*) £1. 16*s*. 3*d*. + 12*s*. 11*d*. + 9*d*. + £25. 19*s*. 9*d*.; (*b*) £40. 0*s*. 3*d*. − £15. 7*s*. 9*d*.

3. (*a*) 15*s*. 9½*d*. × 7; (*b*) £16. 7*s*. 6*d*. ÷ 10; (*c*) ⅛ of 14*s*. 4*d*. + ⅓ of 5*s*. 4½*d*.

4. 12 articles at 1*s*. 9½*d*. each + 11 at 1*s*. 3½*d*. each = ?.

5. 120 halfpenny stamps + 120 penny stamps + 120 threehalfpenny stamps. Find the total value.

6. Change (*a*) to half-pints: 7 gall. 1 pint; (*b*) to pence, 17*s*. 6*d*.; (*c*) to ¼ lb., 96½ lb.

7. (*a*) 3,001 ÷ 41; (*b*) 123 × 57; (*c*) 14*s*. 7½*d*. × 9.

8. Add the sum of three thousand and nine and eleven hundred and seventy-six to their difference.

9. How much short of £10 is the difference between £15. 1*s*. 7*d*. and £11. 9*s*. 6*d*.?

10. Write in Roman Numerals: 11, 32, 90, 109, 111.

11. 19 boxes each contain 180 oranges. Four and a half dozen are bad. How many are sound?

12. How many halfpennies, placed side by side, will measure a distance of 4 yd. 1 ft.? Find their value in *s*. *d*.

13. Draw to scale, on squared paper (1 square = 1 sq. foot), the floor of a room 12 ft. by 9 ft. showing a carpet in the middle, leaving a border of 1 foot all round. Find, by counting the squares, the area in square feet of (*a*) the floor; (*b*) the carpet; (*c*) the border.

14. (*a*) 93 × 87; (*b*) 7,315 ÷ 90; (*c*) 876 ÷ 72; (*d*) 179 × 50.

15. (*a*) £1. 13*s*. 6*d*. + 17*s*. 9*d*. + £5. 8*s*. 9*d*. + 1*s*. 0½*d*.; (*b*) £37. 1*s*. 1*d*. − £14. 14*s*.

16. (*a*) 13*s*. 4½*d*. × 12; (*b*) 12*s*. 6½*d*. ÷ 7; (*c*) (£1. 5*s*. 6*d*. × 11) − £5. 5*s*.

17. (*a*) ½ + ¼; (*b*) 1 − ⅝; (*c*) ⅓ + ½; (*d*) ⅙ + ⅔; (*e*) ¼ + ½ + ⅛.

18. Change (*a*) to oz., 17 lb. 4 oz.; (*b*) to quarts, 19 gall. 3 qt.

19. How many minutes are there (*a*) from a quarter to four to ten past four; (*b*) from ¼ past 6 to 7.15?

20. A rectangle measures 5½ inches by 4 inches. Find (*a*) the distance round; (*b*) the area.

21. The bus set out at 1.40 and arrived at 2.20. How long did it take?

Exercise 25

Tests

A

1. Find the sum of: £3. 2*s*. 6*d*., £2. 7*s*. 9*d*., 10 half-crowns, and three 10*s*. notes.
2. (*a*) 76 × 63; (*b*) 3,076 ÷ 38; (*c*) 3,024 − 1,999; (*d*) 2,756 + 119 + 3,154 + 17.
3. Mother takes $1\frac{1}{2}$ pints of milk each day for 6 days. Find the total cost at $3\frac{1}{2}d.$ a pint.
4. £21. 13*s*. 4*d*. ÷ 10.
5. Share 5,292 marbles equally among 5 boys and 4 girls.

B

1. (*a*) $\frac{2}{3}$ of £3. 16*s*. + $\frac{1}{8}$ of £6. 8*s*. 8*d*.; (*b*) 12*s*. $7\frac{1}{2}d.$ × 6; (*c*) £11. 13*s*. 4*d*. − £3. 17*s*. 9*d*.
2. How much is the sum of £3. 11*s*. 6*d*., £7. 3*s*. 9*d*., and £11. 18*s*. 5*d*. short of £50?
3. A train travels from Edinburgh to London, 392 miles, in 8 hours. How many miles per hour is that?
4. Take 1,378 from the sum of 1,250 and 1,301.
5. 11 lb. of raisins at 1*s*. $1\frac{1}{2}d.$ per lb. = ?.

C

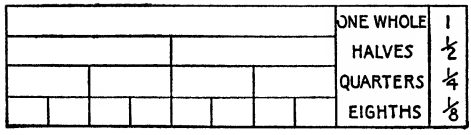
1. Find the total of 2 gross, 3 score, $9\frac{1}{2}$ dozen, and eleven hundred and thirty-one.
2. (*a*) 116 × 57; (*b*) 5,001 − 2,374; (*c*) 956 ÷ 37; (*d*) $\frac{1}{3}$ of the sum of 1,125 and 720.
3. Rice is sold at $2\frac{1}{2}d.$ per lb. Find the cost of 1 cwt. (112 lb.).
4. £2. 19*s*. 6*d*. × 12.
5. Envelopes are sold at 25 for 2*d*. How much will 1,000 cost?

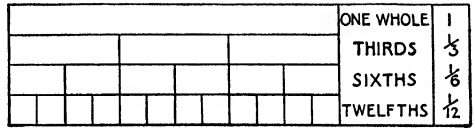
D

1. (*a*) 17*s*. $3\frac{1}{2}d.$ × 11; (*b*) £12. 13*s*. 5*d*. − £7. 14*s*. 9*d*.; (*c*) £1. 16*s*. $5\frac{1}{2}d.$ ÷ 5.
2. 11 yards at 2*s*. $9\frac{1}{4}d.$ a yd. = ?.
3. A shopkeeper takes £5. 19*s*. 7*d*. on Thursday and £12. 19*s*. 4*d*. on Friday. How much does he take on Saturday if his takings for the 3 days are £41. 1*s*. 7*d*.?
4. Divide £17. 15*s*. equally among 12 men.
5. Divide the sum of 1,137, 1,127, and 957 by 53.

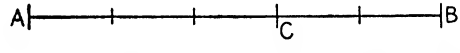
Exercise 26

Easy Fractions

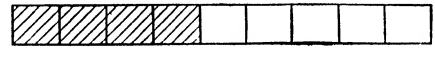




1. Take a strip of paper and fold it to show thirds, sixths, and twelfths. Colour $\frac{1}{3}$ red, $\frac{1}{6}$ blue, and $\frac{1}{12}$ yellow.
2. (*a*) How many sixths in $\frac{1}{3}$? (*b*) How many twelfths in $\frac{1}{3}$? (*c*) How many twelfths in $\frac{2}{3}$? (*d*) How many twelfths in $\frac{2}{3} + \frac{1}{12}$? (*e*) How many twelfths in $\frac{1}{3} + \frac{1}{12}$?
3. (*a*) $1 - \frac{2}{3} = ?$; (*b*) $1 - \frac{5}{6} = ?$; (*c*) $1 - \frac{7}{12} = ?$; (*d*) $\frac{1}{3} + \frac{1}{12} = ?$; (*e*) $\frac{7}{12} + \frac{4}{12} = ?$; (*f*) $\frac{1}{3} + \frac{1}{6} = ?$.
4. Write as twelfths: $\frac{2}{3}$; $\frac{1}{6}$; $\frac{1}{3}$; $\frac{5}{6}$; $\frac{1}{2}$; $\frac{1}{4}$; $\frac{3}{4}$.
5. Find on your ruler, $2\frac{5}{12}$ inches. How many twelfths altogether?
6. How many twelfths in $1\frac{1}{2}$; $1\frac{5}{12}$; $1\frac{1}{12}$; 2?
7. How many inches and twelfths in $\frac{13}{12}$ inches? Now write, in another way, $\frac{4}{3}$, $\frac{11}{6}$, $\frac{19}{12}$, $\frac{24}{12}$, $\frac{27}{12}$.
8. Find (*a*) $\frac{1}{2}$ of £1; (*b*) $\frac{1}{4}$ of 16 gall.; (*c*) $\frac{2}{3}$ of 1 guinea; (*d*) $\frac{3}{8}$ of 24 hours; (*e*) $\frac{5}{6}$ of 60 minutes.
9. Find (*a*) $\frac{1}{2}$; (*b*) $\frac{1}{4}$; (*c*) $\frac{1}{3}$; (*d*) $\frac{1}{8}$; (*e*) $\frac{1}{6}$; (*f*) $\frac{1}{12}$ of £1.
10. What part of 1 hour is (*a*) 30 minutes; (*b*) 15 min.; (*c*) 10 min.; (*d*) 5 min.; (*e*) 20 min.?
11. What part of the line AB is AC?



12. Draw a line $3\frac{1}{2}$ inches long. Mark off the half-inches. How many? What part of the line is (*a*) one half-inch; (*b*) 5 half-inches?
13. Into how many equal parts has the oblong been divided? What part is shaded? What part is left unshaded?



14. Write in another form: (*a*) $\frac{3}{3}$; $\frac{6}{3}$; $\frac{5}{3}$; $\frac{17}{3}$; (*b*) $\frac{6}{6}$; $\frac{12}{6}$; $\frac{8}{6}$; $\frac{11}{6}$; $\frac{13}{6}$.
15. (*a*) $\frac{7}{12} + \frac{1}{12}$; (*b*) $\frac{5}{12} + \frac{7}{12}$; (*c*) $\frac{1}{12} + \frac{11}{12}$; (*d*) $\frac{11}{12} + \frac{7}{12}$; (*e*) $\frac{1}{12} + \frac{5}{12} + \frac{7}{12}$.
16. (*a*) $\frac{2}{3} + \frac{1}{12}$; (*b*) $\frac{1}{2} + \frac{1}{12}$; (*c*) $\frac{1}{4} + \frac{1}{12}$; (*d*) $\frac{3}{4} + \frac{1}{12}$; (*e*) $\frac{5}{6} + \frac{1}{12}$.
17. (*a*) $\frac{11}{12} - \frac{1}{12}$; (*b*) $\frac{5}{12} - \frac{1}{12}$; (*c*) $\frac{1}{6} - \frac{1}{12}$; (*d*) $\frac{1}{3} - \frac{1}{12}$; (*e*) $\frac{3}{4} - \frac{5}{12}$.
18. Find (*a*) $\frac{1}{5}$; (*b*) $\frac{1}{7}$; (*c*) $\frac{1}{9}$ of £15. 15*s*.
19. What part of £1 is (*a*) 4*s*.; (*b*) 12*s*.; (*c*) 16*s*.?

Exercise 27

Money. Addition and Multiplication

A. ADDITION

	(*a*)			(*b*)			(*c*)			(*d*)		
	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
1.		3	9		5	11	1	3	$6\frac{1}{2}$	2	3	$6\frac{1}{4}$
		17	6		14	9		7	$5\frac{1}{4}$		12	$9\frac{1}{2}$
	1	7	8	2	3	6		13	9		8	$7\frac{1}{4}$
2.		13	6	1	17	9	3	11	$8\frac{3}{4}$	11	10	$3\frac{1}{2}$
	2	7	9		7	11	9	0	$0\frac{1}{2}$		9	$4\frac{1}{2}$
		14	8	3	8	6		17	$11\frac{1}{4}$		17	$6\frac{1}{2}$
	4	5	9		9	5		5	9		3	$11\frac{1}{2}$
3.	4	3	5	5	3	0	12	3	$6\frac{1}{4}$	17	10	$9\frac{1}{2}$
	9	2	7		17	6		17	$9\frac{1}{4}$	1	15	$8\frac{1}{2}$
	1	8	10	8	9	0	2	18	$7\frac{1}{4}$	2	17	$9\frac{1}{4}$
	12	13	0	4	10	$7\frac{1}{2}$	1	13	$5\frac{1}{4}$	3	9	$8\frac{1}{4}$
4.	11	10	9	13	17	6	3	12	$6\frac{1}{4}$	8	13	$7\frac{1}{4}$
	3	7	8		8	$9\frac{1}{4}$	1	15	$7\frac{3}{4}$		17	$9\frac{3}{4}$
	5	8	7		13	11	9	13	$8\frac{1}{2}$	13	12	$8\frac{1}{2}$
	7	5	10	23	10	8	11	6	$9\frac{1}{2}$	1	19	$6\frac{3}{4}$

B. MULTIPLICATION

5. Multiply 11*s.* 6*d.* by (*a*) 7; (*b*) 8; (*c*) 9; (*d*) 10; (*e*) 11; (*f*) 12.

6. Multiply 12*s.* $4\frac{1}{2}$*d.* by (*a*) 7; (*b*) 8; (*c*) 9; (*d*) 10; (*e*) 11; (*f*) 12.

7. Multiply £1. 6*s.* 5*d.* by (*a*) 3; (*b*) 4; (*c*) 6; (*d*) 7; (*e*) 11; (*f*) 12.

8. Multiply £3. 10*s.* 9*d.* by (*a*) 8; (*b*) 9; (*c*) 10; (*d*) 12.

9. Multiply £1. 4*s.* $1\frac{1}{2}$*d.* by (*a*) 5; (*b*) 7; (*c*) 12.

10. Multiply £4. 5*s.* 1*d.* by (*a*) 7; (*b*) 9; (*c*) 11.

11. Multiply £1. 4*s.* $2\frac{1}{2}$*d.* by (*a*) 6; (*b*) 7; (*c*) 8; (*d*) 9; (*e*) 10; (*f*) 12.

	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)
12.	4*d.* × 20	3*d.* × 40	6*d.* × 30	2*d.* × 25	3*d.* × 27	4*d.* × 32
13.	5*d.* × 17	6*d.* × 23	7*d.* × 41	8*d.* × 19	9*d.* × 15	7*d.* × 21
14.	4*s.* × 14	3*s.* × 15	7*s.* × 18	8*s.* × 20	12*s.* × 21	10*s.* × 32
15.	15*s.* × 14	14*s.* × 16	17*s.* × 18	18*s.* × 20	19*s.* × 21	18*s.* × 18
16.	17*s.* × 21	14*s.* × 15	16*s.* × 31	17*s.* × 29	19*s.* × 23	15*s.* × 32

Exercise 28

Money. Subtraction and Division

A. SUBTRACTION

	(a)			(b)			(c)			(d)			(e)			(f)		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1.		17	$5\frac{1}{2}$		15	6	1	15	$6\frac{1}{2}$	1	12	$11\frac{1}{2}$	1	14	$5\frac{1}{4}$	5	11	$4\frac{1}{2}$
		8	$9\frac{3}{4}$		7	$9\frac{1}{2}$		13	$9\frac{3}{4}$		14	$9\frac{3}{4}$		17	$6\frac{1}{2}$	2	19	3
2.	37	12	5	43	17	4	57	13	4	76	14	9	81	14	9	90	0	0
	9	17	8	8	15	9	9	15	6	29	13	10	37	15	9	27	13	6
3.	7	12	$3\frac{1}{2}$	7	14	3	4	12	$8\frac{1}{2}$	10	0	0	12	0	0	10	0	0
	6	16	$9\frac{3}{4}$	3	16	$8\frac{1}{2}$	2	17	$11\frac{1}{2}$	2	12	$7\frac{1}{2}$	3	18	$4\frac{1}{4}$	4	13	$7\frac{3}{4}$

4. From ninety-one pounds twelve shillings take thirty-seven pounds thirteen shillings and sixpence.
5. How much must be added to £10. 3*s.* $1\frac{1}{2}$*d.* to make £78. 1*s.* 0*d.*?
6. Find the difference between three and a half guineas and seven pounds seven shillings and fourpence.

B. DIVISION

	(a)			(b)			(c)			(d)			(e)		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
7.	9 | 40	5	6	8 | 43	15	4	9 | 39	4	6	7 | 51	4	4	5 | 62	12	6
8.	10 | 80	12	6	9 | 90	12	9	11 | 77	13	9	10 | 1	5	5	9 | 1	4	$11\frac{1}{4}$
9.	5 | 10	16	$5\frac{1}{2}$	6 | 12	7	9	7 | 14	8	$10\frac{3}{4}$	8 | 8	10	10	9 | 18	19	$8\frac{1}{4}$
10.	5 | 6	6	3	6 | 13	7	6	9 | 19	11	6	10 | 21	4	2	7 | 22	12	1
11.	8 | 1	6	6	12 | 88	18	0	11 | 80	8	9	9 | 1	5	$10\frac{1}{2}$	7 | 1	2	$5\frac{1}{2}$

C. PROBLEMS

12. Five weeks' rent amounts to £4. 10*s.* 10*d.* How much is that per week?
13. Father bought 12 lb. of ham for 14*s.* 6*d.* How much per lb. was that?
14. The railway fares of 7 adults amounted to £18. 1*s.* 1*d.* How much was that for each?
15. What will 7 weeks' rent amount to at 11*s.* 7*d.* per week?
16. Find the sum of ten £5 notes, one £20 note, 17 ten-shilling notes, and 137 shillings.
17. I paid, for a bicycle, £7. 17*s.* 6*d.*, and for a lamp, 12*s.* 9*d.* How much had I left out of a £10 note?

Exercise 29

Weights and Measures. Addition and Subtraction

1. Change to ounces: 3 lb., $4\frac{1}{2}$ lb., $4\frac{3}{4}$ lb., $5\frac{1}{4}$ lb., 2 lb. 2 oz., 7 lb. 4 oz., 5 lb. 12 oz., 3 lb. 13 oz.
2. Change to lb. and oz.: 32 oz., 48 oz., 64 oz., 18 oz., 53 oz., 72 oz., 102 oz., 121 oz.
3. Change to quarts: 2 gallons, 4 gall., $5\frac{1}{2}$ gall., 10 gall., 3 gall. 2 qt., 5 gall. 3 qt., 2 gall. 1 qt.
4. Change to pints: 3 quarts 1 pint, 2 qt. 1 pt., 2 gall. 1 pt., $4\frac{1}{2}$ gall., 5 gall. 3 pt.
5. Change to quarts and pints: 6 pints, 9 pt., 7 pt., 15 pt., 33 pt., 11 pt.
6. Change to gallons and quarts: 17 quarts, 13 qt., 21 qt., 32 qt., 15. qt.
7. Change to hours: 2 days, 1 day 8 hr., 3 days 12 hr., 2 days 7 hr.
8. Change to days and hours: 96 hours, 72 hours, 32 hours, 41 hours, 37 hr.

ADDITION

	(a)		(b)		(c)		(d)		(e)		(f)		(g)	
9.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	gall.	qt.	gall.	qt.	gall.	qt.
	1	3	2	3	3	5	1	11	2	1	2	3	4	3
	2	13	1	11	2	12	2	9	1	2	1	1	3	3
	1	6	2	7	3	9	1	6	2	3	3	2	1	3
	tons	cwt.	tons	cwt.	tons	cwt.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
10.	3	7	5	11	3	17	3	3	4	6	1	11	2	9
	2	11	3	17	2	11	2	9	3	7	3	10	1	8
	1	12	4	2	1	9	1	7	2	9	2	11	3	7
	yd.	ft.	yd.	ft.	yd.	ft.	dy.	hr.	dy.	hr.	dy.	hr.	dy.	hr.
11.	3	1	4	2	9	1	1	7	1	17	2	17	2	21
	1	2	3	2	1	2	1	11	2	9	2	18	1	22
	2	2	2	2	5	2	2	16	3	6	3	23	3	23

SUBTRACTION

	tons	cwt.	tons	cwt.	tons	cwt.	tons	cwt.	lb.	oz.	lb.	oz.	lb.	oz.
12.	5	19	5	3	7	17	8	14	4	13	4	9	3	11
	2	13	1	15	3	19	2	17	2	9	2	13	1	15
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	qt.	pt.	qt.	pt.	qt.	pt.
13.	3	7	4	5	7	9	3	4	3	0	4	1	5	0
	1	9	2	11	1	10	2	11	1	1	2	1	2	1
	dy.	hr.	dy.	hr.	dy.	hr.	dy.	hr.	yd.	ft.	yd.	ft.	yd.	ft.
14.	7	19	3	20	4	5	7	11	5	2	3	1	7	1
	2	11	1	22	1	19	1	13	1	1	1	2	3	2

15. A 25-foot wireless pole has 3 ft. 9 in. in the ground. What length is above ground?
16. One man weighs $13\frac{1}{2}$ stone and another 11 stones 9 lb. Find the difference between their weights. (14 lb. = 1 stone.)
17. Use 2 lb. 7 oz. of sugar out of 4 lb. What weight is left?

Exercise 30

Revision

1. (*a*) 79 × 26; (*b*) 1,723 ÷ 36; (*c*) 9,000 − 3,001; (*d*) 11*d.* × 79.

2. (*a*) £97. 16*s.* 7½*d.* ÷ 11; (*b*) From ¼ of £95. 15*s.* 6*d.* take ⅓ of £35. 0*s.* 1½*d.*

3. (*a*) 13 tons 9 cwt. − 97 cwt.; (*b*) 95*d.* + 11 threepences + 31 sixpences + 73*s.*

4. (*a*) 12 gallons at 3*d.* a pint; (*b*) Length = 12 ft.; Width = 9 ft. Area = ?.

5. (*a*) 221 penny stamps = ?; (*b*) 73 threepenny stamps = ?; (*c*) 22 articles at 2*s.* 6*d.* each = ?.

6. Buy 4 pairs of stockings at 2*s.* 11½*d.* a pair; change out of £1 = ?.

7. (*a*) $\frac{7}{8} - \frac{1}{2}$; (*b*) $\frac{1}{3} + \frac{1}{4}$; (*c*) $\frac{7}{8} + \frac{3}{4}$; (*d*) $\frac{1}{2} - \frac{1}{3}$.

8. Spend £1. 13*s.* 6½*d.* + 7*s.* 11*d.*; change out of £3 = ?.

9. Find the difference between eighteen hundred and nine and nine thousand and one.

10. To the sum of 1,734 and 2,119 add their difference.

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11. A picture-show commenced at 6.30 and ended at 8.15. How many hours and minutes did it last?

12. Butter is bought at 1*s.* 1*d.* a lb. and sold at 1*s.* 6*d.* a lb. Find the profit on 1 cwt. (112 lb.)

13. My lawn is 6 yards 7 inches long and 5 yards 9 inches wide. Find (*a*) the distance all round; (*b*) the difference in inches between the length and the width.

14. A cake weighs 11 lb. 7 oz. What weight of cake will be left after selling 2 lb. 3 oz. to Mrs. Smith and 4 lb. 14 oz. to Mrs. Jones?

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15. 410 sixpences + 720 ninepences + 115 shillings = £ *s. d.*

16. A table top is 6 ft. long and 3 ft. wide. Let 1 inch stand for 1 foot and make a drawing of the table top.

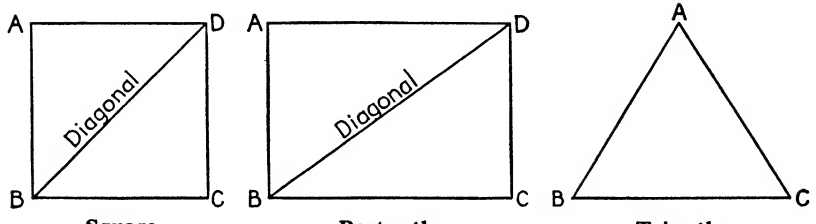
17. What is the area of *your* drawing, No. 16? How far is it all round: (*a*) the *actual* table top; (*b*) *your* drawing?

18. Change first to feet and then to yards: (*a*) 144 inches; (*b*) 216 inches.

19. Change to inches: (*a*) 3 ft. 11 in.; (*b*) 7 ft. 9 in.; (*c*) 11 ft. 7 in.

Exercise 31

Lines and Angles: The Circle



1. Look at the square. Name the vertical lines and the horizontal lines. Which lines are parallel?
2. Repeat question 1 for the rectangle. How does a rectangle differ from a square?
3. What sorts of lines do you find in the triangle?
4. Take a circular piece of paper and fold it as shown in fig. 1 (the dotted lines represent creases). What part of the circle is each of the angles? How many degrees are there in each of the angles (fig. 1)?

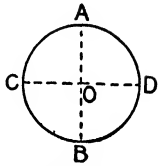


Fig. 1

5. Now fold your circle as shown in fig. 2. What part of the circle is the angle AOF? How many degrees are there in each of the angles (fig. 2)?
6. Which angles in fig. 2 are (*a*) right angles; (*b*) acute angles; (*c*) obtuse angles?
7. Through how many degrees does the minute hand of a clock move (*a*) in 5 minutes (see fig. 3); (*b*) in 10 mins.; (*c*) in 15 mins.; (*d*) in 20 mins.; (*e*) in 30 mins.; in 45 mins.; in 25 mins.; in 60 mins.; in 45 mins.?

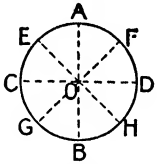


Fig. 2

8. Take a square piece of cardboard and draw a diagonal (see square above). Cut along the diagonal and you have two set-squares. Examine one of the set-squares and note the angles.
9. Use your set-square and ruler to draw a number of right angles.
10. Use your set-square and ruler to draw (*a*) a square where sides are 3 inches; (*b*) a rectangle, 4 inches long and 3 inches wide. How far is it round the square? How far is it round the rectangle?
11. Draw (*a*) a triangle having a right angle; (*b*) a triangle having an obtuse angle. Name the other angles in each figure.
12. On the card of a mariner's compass (see p. 4), the line joining North and South is at right angles to the line joining East and West. Draw these lines and put in N., S., E., W.

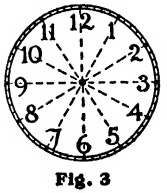


Fig. 3

Exercise 32

The Simple Rules

Add, in columns and rows:

	(a)	(b)	(c)
1.	37 + 65 + 121 =	372 + 384 + 35 =	359 + 759 =
2.	43 + 98 + 93 =	562 + 197 + 27 =	1,234 + 863 =
3.	91 + 34 + 116 =	173 + 169 + 119 =	757 + 1,275 =
4.	72 + 91 + 87 =	148 + 183 + 157 =	1,237 + 1,216 =
5.	Totals =	=	=

	(a)	(b)	(c)	(d)	(e)	(f)
6.	2,091	6,351	1,219	2,163	3,127	2,139
	+ 1,876	+ 796	+ 729	+ 378	+ 597	+ 756
	+ 3,159	+ 103	+ 889	+ 457	+ 1,264	+ 1,347
	+ 1,199	+ 1,827	+ 5,216	+ 2,719	+ 1,345	+ 2,179

7. Find the sum of thirty-three, two thousand and one, one thousand nine hundred and thirty-six, and three thousand and fifty-seven.

	(a)	(b)	(c)	(d)	(e)	(f)
8.	3,745	6,352	9,348	3,627	5,001	7,311
	− 1,876	− 6,293	− 7,908	− 787	− 1,347	− 2,324

Subtract, in columns and rows. Check your answers.

	(a)		(b)		(c)	
9.	7,234	1,639	5,311	2,176	7,316	4,239
10.	3,549	739	2,164	1,378	3,167	2,749
11.						

12. Find the difference between three hundred and thirteen and four thousand and ten.

13. Multiply 89 by (*a*) 6; (*b*) 9; (*c*) 12; (*d*) 18; (*e*) 27; (*f*) 39; (*g*) 47.

	(a)	(b)	(c)	(d)	(e)	(f)
14.	38 × 23	75 × 39	95 × 27	108 × 41	179 × 43	225 × 39
15.	357 × 15	410 × 20	238 × 37	505 × 19	190 × 28	138 × 46
16.	305 × 19	437 × 17	176 × 40	360 × 20	138 × 39	95 × 76

17. Find the product of two hundred and nineteen and thirty-two.

	(a)	(b)	(c)	(d)	(e)	(f)
18.	4,473 ÷ 21	5,763 ÷ 51	9,703 ÷ 31	8,692 ÷ 41	6,844 ÷ 61	9,720 ÷ 81
19.	3,795 ÷ 33	4,902 ÷ 43	3,774 ÷ 34	2,574 ÷ 22	3,828 ÷ 33	5,280 ÷ 44
20.	1,273 ÷ 51	3,769 ÷ 67	4,326 ÷ 39	1,273 ÷ 21	4,326 ÷ 52	7,284 ÷ 93
21.	4,537 ÷ 21	5,736 ÷ 34	3,079 ÷ 35	2,698 ÷ 17	4,486 ÷ 57	2,017 ÷ 26

22. Find the quotient when two thousand three hundred and eleven is divided by fifty-four.

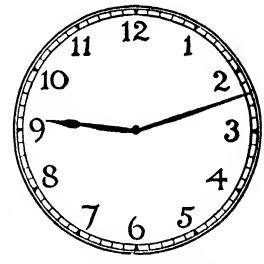
Exercise 33

The Clock. Time

1. How many (*a*) hours; (*b*) minutes from 12 o'clock to 2 o'clock; from 1 o'clock to 5 o'clock; from 3 o'clock to 10 o'clock; from 9 o'clock to 8 o'clock; from 6 o'clock to 3 o'clock?
2. How many minutes are there (*a*) from 2 o'clock to 10 min. past 4; (*b*) from 5 min. past 2 to 5 min. to 3; (*c*) from 3 min. past 12 to 5 min. to 1; (*d*) from 15 min. past 3 to 4 min. past 4?
3. How many hours are there (*a*) from 9 o'clock in the morning to 6 o'clock in the evening; (*b*) from 7 o'clock in the evening to 4 o'clock next morning; (*c*) from 8 o'clock Friday morning to 7 o'clock Sunday evening; (*d*) from 9 a.m. to 6 p.m. on the same day; (*e*) from 4 p.m. to 3 a.m. next day?
4. It is now 12 noon. What time was it (*a*) $1\frac{3}{4}$ hours ago; (*b*) 35 min. ago; (*c*) 95 min. ago?
5. School starts at 9 in the morning and goes on till noon. In the afternoon it starts at half-past one and goes on till 4 o'clock. Write these times in the shortened form, showing *before* noon and *after* noon where necessary.
6. How many minutes are there (*a*) from 9 a.m. to 10.35 a.m. the same day; (*b*) from 9.5 p.m. to 6.30 a.m. next morning; (*c*) from 1.53 p.m. to 11.13 p.m. the same day?

Class Time Table. Morning Session

	9	9.35	10.20	10.40	10.55	11.40	12
Monday	Scripture	Arithmetic	P.T.	Play-time	History	English	



7. Look at the Class Time-table. Now copy out and fill in the table below, for each lesson. Scripture has been done for you.

Lesson	Commences	Ends	Time it goes on
Scripture	9 a.m.	9.35 a.m.	35 minutes
Arithmetic			
P.T.			
Play			
etc., etc.			

8. A train leaves London at 11.55 p.m. and arrives Liverpool at 5.45 a.m. How long does it take?
9. The match commenced at 2.45 p.m. and finished at 4.25 p.m. How long did it take?
10. (*a*) What time does the clock face show? (*b*) what time did it show 17 minutes before? what time will it show after 1 hour 7 min. have passed?

Exercise 34

Money. Addition, Subtraction, and Division

A. ADDITION

1. 7*s.* 6*d.* + 16*s.* 7*d.* + £1. 13*s.* 5*d.*
2. 16*s.* 9*d.* + £2. 7*s.* 9*d.* + 18*s.* 4*d.* + £17. 5*s.* 9*d.*
3. £1. 13*s.* 7½*d.* + £1. 7*s.* 9¼*d.* + 18*s.* 9*d.*
4. £22. 13*s.* 7¼*d.* + 17*s.* 9½*d.* + 7*s.* 6¼*d.* + £11. 13*s.* 4½*d.*
5. 13*s.* 6*d.* + £2. 9*s.* 7*d.* + 18*s.* 4*d.* + £9. 5*s.* 4*d.*
6. £14. 13*s.* 5*d.* + £19. 17*s.* 2*d.* + £11. 10*s.* 8*d.* + £12. 16*s.* 5*d.*
7. £3. 18*s.* 11¾*d.* + £19. 10*s.* 10½*d.* + 17*s.* 11¼*d.* + £30. 0*s.* 0½*d.*
8. £18. 13*s.* 9¼*d.* + £13. 19*s.* 7¾*d.* + £15. 13*s.* 9½*d.* + £23. 19*s.* 7¾*d.*
9. Find the value of
   357*d.* + 416 half-pence + 135 threepences + 215 half-crowns.

B. SUBTRACTION

1. (*a*) 18*s.* 5½*d.* − 7*s.* 8¾*d.* (*b*) 19*s.* 3*d.* − 9*s.* 7½*d.*
   (*c*) £1. 16*s.* 5½*d.* − 19*s.* 7¾*d.*
2. £77. 12*s.* 3*d.* − £19. 18*s.* 7*d.* (*b*) £93. 14*s.* 7*d.* − £28. 17*s.* 8*d.*
   (*c*) £77. 14*s.* 3*d.* − £59. 16*s.* 5*d.*
3. £90. 0*s.* 0*d.* − £74. 17*s.* 4¾*d.* (*b*) £78. 15*s.* 3*d.* − £39. 14*s.* 9¾*d.*
   (*c*) £80. 0*s.* 0½*d.* − £37. 1*s.* 11¼*d.*
4. (*a*) £94. 12*s.* 7½*d.* − £77. 17*s.* 8¾*d.* (*b*) £93. 0*s.* 0*d.* − £57. 0*s.* 3¼*d.*
   (*c*) £73. 15*s.* 6¼*d.* − £49. 19*s.* 8½*d.*
5. Find the value of (£3. 1*s.* 2½*d.* + 326 threehalfpence) − (273*d.* + 176 farthings).

C. DIVISION

	(*a*)	(*b*)	(*c*)
1.	£49. 4*s.* 9*d.* ÷ 9	£52. 3*s.* 4*d.* ÷ 8	£78. 5*s.* 3*d.* ÷ 9
2.	£58. 11*s.* 4*d.* ÷ 7	£67. 17*s.* 6*d.* ÷ 5	£59. 18*s.* 8*d.* ÷ 8
3.	£81. 2*s.* 6*d.* ÷ 10	£77. 2*s.* 9*d.* ÷ 11	£1. 13*s.* 11¼*d.* ÷ 9
4.	£88. 6*s.* 0*d.* ÷ 12	£10. 5*s.* 10½*d.* ÷ 9	£15. 2*s.* 5½*d.* ÷ 7

5. A dozen rugs cost £16. 2*s.* What must we pay for 5?

D. MISCELLANEOUS

1. What will 1¾ lb. of tea cost at 2½*d.* an oz.?
2. Tea is bought at 2*s.* 3*d.* a lb. and sold at 2*s.* 8*d.* a lb. Find the profit on 1 cwt. (112 lb.).
3. Change (*a*) £1. 7*s.* 6*d.* to pence; (*b*) 12*s.* 4½*d.* to threehalfpences; (*c*) £2. 10*s.* to half-crowns.
4. Eggs are bought at 1*s.* 8*d.* a score and sold at 1*s.* 6*d.* a dozen. Find the profit on 6 dozen.
5. 220 threehalfpences + 115*s.* + 178 halfpence + 213*d.*
6. What is the difference between 346*d.* and 27 half-crowns?
7. (*a*) How many articles at 1*s.* each can be bought for £23. 17*s.*; at 6*d.* each, for 19*s.* 6*d.*?
8. Find the difference between one-eighth of seventy-five pounds fifteen shillings and sixpence and one-quarter of fifteen pounds seventeen shillings and tenpence.
9. (*a*) 1 yard 1 ft. 1 inch at ½*d.* an inch. (*b*) 1 gall. 1 qt. 1 pt. at 3*d.* a pint.

Exercise 35

Reduction. Money

	(*a*)	(*b*)	(*c*)	(*d*)
1. Change to pence:	14*s.* 9*d.*	15*s.* 11*d.*	£1. 12*s.* 6*d.*	£2. 13*s.* 11*d.*
2. Change to halfpence:	7*s.* 8*d.*	5*s.* 7½*d.*	£1. 9*s.* 4½*d.*	£2. 3*s.* 6½*d.*
3. Change to farthings:	5*s.* 2¼*d.*	7*s.* 4¾*d.*	£1. 3*s.* 3¼*d.*	£2. 5*s.* 7¾*d.*
4. Change to threepences:	6*s.* 3*d.*	17*s.* 9*d.*	£1. 3*s.* 3*d.*	£2. 7*s.* 9*d.*
5. Change to sixpences:	12*s.* 6*d.*	19*s.* 0*d.*	£1. 3*s.* 6*d.*	£2. 7*s.* 0*d.*
6. Change to threehalfpences:	5*s.* 3*d.*	7*s.* 6*d.*	£1. 2*s.* 3*d.*	£2. 5*s.* 10½*d.*

123; 279; 376; 436; 673; 963; 1,000.

7. Call the numbers (above) pence and change to *s. d.*, or £. *s. d.*
8. Call the numbers halfpence and change to *s. d.*, or £. *s. d.*
9. Call the numbers farthings and change to *s. d.*, or £. *s. d.*
10. Call the numbers threehalfpences and change to *s. d.*, or £. *s. d.*
11. Call the numbers threepences and change to *s. d.*, or £. *s. d.*
12. Call the numbers sixpences and change to *s. d.*, or £. *s. d.*
13. Call the numbers half-crowns and change to £. *s. d.* (Leave out 963, and 1,000.)

MISCELLANEOUS EXERCISES

14. Find the difference between 379 pence and 379 threehalfpences.
15. Find the cost of (*a*) 796 at ½*d.* each; (*b*) 479 at threepence each; (*c*) 1,231 at ¼*d.* each.
16. 379*d.* + 189 halfpence + 59 threepences + 100 sixpences.
17. How many articles at 2*s.* 6*d.* each can I buy for £2. 17*s.* 6*d.*?
18. What will 1,200 articles cost at ¼*d.* each?
19. 300 halfpenny stamps + 400 penny stamps + 315 threehalfpenny stamps. Find the total cost.
20. Find the change out of £5 after buying 373 twopenny stamps.
21. 345 sixpences — 345 threepences.
22. 1,000 threehalfpences — 1,000 pence.

Exercise 36

Money. Long Multiplication

	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)
1. Multiply £2. 13*s.* by	7	8	9	10	11	12
2. Multiply 1*s.* 10*d.* by	7	8	9	10	11	12
3. Multiply 1*s.* 1*d.* by	13	14	15	16	17	18
4. Multiply 1*s.* 3*d.* by	16	18	21	33	27	31
5. Multiply 2*s.* 8*d.* by	20	23	26	29	31	35
6. Multiply 3*s.* 4*d.* by	18	21	27	30	33	36
7. Multiply 4*s.* 7*d.* by	17	19	22	26	29	31
8. Multiply 3*s.* 11*d.* by	19	21	25	29	33	36

9. (*a*) $\frac{1}{4}d. \times 19$; (*b*) $\frac{1}{2}d. \times 33$; (*c*) $\frac{3}{4}d. \times 35$; (*d*) $1d. \times 43$; (*e*) $1\frac{1}{2}d. \times 21$.

10. (*a*) $1\frac{1}{4}d. \times 19$; (*b*) $1\frac{1}{2}d. \times 33$; (*c*) $1\frac{3}{4}d. \times 35$; (*d*) $2\frac{1}{4}d. \times 43$; (*e*) $2\frac{1}{2}d. \times 34$.

11. (*a*) $2\frac{1}{4}d. \times 21$; (*b*) $2\frac{1}{2}d. \times 35$; (*c*) $2\frac{3}{4}d. \times 41$; (*d*) $3\frac{1}{4}d. \times 37$; (*e*) $3\frac{1}{2}d. \times 73$.

12. (*a*) $4\frac{1}{2}d. \times 31$; (*b*) $3\frac{1}{4}d. \times 43$; (*c*) $4\frac{3}{4}d. \times 27$; (*d*) $5\frac{1}{2}d. \times 53$; (*e*) $5\frac{1}{4}d. \times 55$.

13. (*a*) $7\frac{1}{2}d. \times 31$; (*b*) $5\frac{3}{4}d. \times 43$; (*c*) $9\frac{1}{2}d. \times 34$; (*d*) $7\frac{3}{4}d. \times 41$; (*e*) $6\frac{1}{2}d. \times 49$.

14. (*a*) $1s. 1\frac{1}{2}d. \times 21$; (*b*) $1s. 6\frac{1}{2}d. \times 32$; (*c*) $2s. 2\frac{1}{4}d. \times 17$; (*d*) $2s. 3\frac{3}{4}d. \times 14$; (*e*) $3s. 1\frac{1}{4}d. \times 31$.

15. (*a*) $1s. 2\frac{1}{4}d. \times 19$; (*b*) $2s. 1\frac{3}{4}d. \times 18$; (*c*) $3s. 2\frac{1}{2}d. \times 21$; (*d*) $3s. 3\frac{3}{4}d. \times 19$; (*e*) $2s. 6\frac{1}{4}d. \times 23$.

16. (*a*) $1s. 3\frac{1}{2}d. \times 18$; (*b*) $3s. 2\frac{1}{4}d. \times 19$; (*c*) $4s. 1\frac{1}{4}d. \times 25$; (*d*) $1s. 7\frac{1}{4}d. \times 21$; (*e*) $3s. 3\frac{1}{2}d. \times 19$.

17. Find the cost of 27 articles at 1*s.* 3*d.* each.

18. A National Savings Certificate costs 16*s.* What must be paid for 15?

19. Father is paid at the rate of $2s. 1\frac{1}{2}d.$ an hour. How much does he earn in a week of 47 hours?

20. Find the cost of 31 toys at $6\frac{1}{2}d.$ each.

21. Milk is $3\frac{1}{2}d.$ a pint. What must be paid for 25 pints?

22. Writing pads are $10\frac{1}{2}d.$ each. Find the cost of 21.

23. What must be paid for 26 stamps at $1s. 5d.$ each?

24. Tobacco is $9\frac{1}{2}d.$ an oz. How much is that per lb.?

Exercise 37

Shopping

TO-DAY'S PRICES

The Baker's List

Bread: White loaf, $4\frac{1}{2}d.$ each.
Bread: Brown or white cob, $2d.$ each.
Bread: Plum { small loaf, $9d.$ each. / large loaf, $1s.$ $6d.$ each.
Small cakes (fancies), $1d.$ each.
Slab cake, per lb., $9d.$
Pastries: $1d.$ each or 7 for $6d.$
Flour, per 14 lb., $1s.$ $10d.$

The Chandler's List

Soap { Sunlight, per lb., $5\frac{1}{2}d.$ / Lifebuoy, per 12 oz., $5d.$
Rinso { per small packet, $3\frac{1}{2}d.$ / per large packet, $10d.$
Vim { per packet, $2d.$ / per tin, $6d.$
Metal polish, per tin, $7\frac{1}{2}d.$
Washing soda, per 14 lb., $1s.$
Furniture cream, per bottle, $4\frac{1}{2}d.$
Paraffin, per qt., $3d.$; per gall., $11d.$

Work the sums below, taking the prices from "the list". Find the total in each case.

1. 2 white loaves.
   1 small loaf, plum-bread.
   14 pastries.
   5 brown cobs.

2. $1\frac{1}{2}$ dozen small cakes.
   $\frac{1}{2}$ lb. of slab cake.
   3 white loaves.
   1 large loaf, plum-bread.

3. Monday: 3 white loaves.
   Tuesday: 7 lb. flour.
   Wednesday: 14 pastries.
   Thursday: 2 white loaves.
   Friday: 3 cobs (brown).
   Saturday: { 4 white loaves. / $\frac{1}{2}$ lb. slab cake. / $3\frac{1}{2}$ lb. flour.

4. Monday: 4 white loaves.
   Tuesday: $3\frac{1}{2}$ lb. flour.
   Wednesday: 7 pastries and 2 cobs.
   Thursday: 3 white loaves.
   Friday: $1\frac{1}{2}$ dozen small cakes.
   Saturday: { 5 white loaves. / 7 lb. of flour. / $1\frac{1}{2}$ lb. slab cake.

5. 3 small packets of Rinso.
   1 tin of metal polish.
   $3\frac{1}{2}$ lb. of washing soda.
   1 qt. of paraffin.
   3 bars of Lifebuoy soap (12 oz.)

6. 2 large packets of Rinso.
   3 bottles of furniture cream.
   2 tins of metal polish.
   2 lb. of Sunlight soap.
   $\frac{1}{2}$ gall. of paraffin.

7. 3 pints of paraffin.
   21 lb. of washing soda.
   3 lb. of Sunlight soap.
   2 tins of metal polish.
   3 packets of Vim.
   3 small packets of Rinso.

8. 4 bars of Lifebuoy soap (12 oz.).
   $1\frac{1}{2}$ gall. of paraffin.
   3 bottles of furniture cream.
   $10\frac{1}{2}$ lb. of washing soda.
   3 tins of metal polish.
   5 small packets of Rinso.

Exercise 38

Weights and Measures. Addition and Subtraction

A. LENGTH

	(*a*)	(*b*)	(*c*)	(*d*)
1. Change to inches:	3 ft. 7 in.	1 ft. $10\frac{1}{2}$ in.	1 yd. 2 ft.	2 yd. 1 ft. 5 in.
2. Change to ft. and in.:	59 in.	73 in.	$49\frac{1}{4}$ in.	117 in.
3. Change to yd. ft. and in.:	73 in.	91 in.	87 in.	131 in.

		ft.	*in.*	*ft.*	*in.*	*yd.*	*ft.*	*yd.*	*ft.*	*in.*
4. First add; then take away:		3	7	5	5	3	0	2	1	5
		1	9	3	7	1	2	1	2	7

5. Find the difference between 3 yd. 1 ft. 2 in. and 7 yd. 0 ft. 1 in.

6. Silver wire is $10\frac{1}{2}d.$ an inch. Find the cost of 1 yd. 1 ft. 3 in. of wire.

7. A 60-inch tape measure was cut into 2 pieces. One piece was 2 ft. 11 in. long. Find the length of the other piece.

8. A grass plot is 6 yd. 2 ft. long and 4 yd. 2 ft. 3 in. wide. Find (*a*) the difference between the length and the width; (*b*) the distance all round.

B. WEIGHT

	(*a*)	(*b*)	(*c*)	(*d*)
1. Change to oz.:	1 lb. 7 oz.	2 lb. 9 oz.	7 lb. 11 oz.	5 lb. $13\frac{1}{4}$ oz.
2. Change to lb. oz.:	73 oz.	81 oz.	101 oz.	121 oz.
3. Change to cwt.:	1 ton 7 cwt.	2 tons 11 cwt.	4 tons 19 cwt.	7 tons $11\frac{1}{2}$ cwt.
4. Change to tons and cwt.:	31 cwt.	49 cwt.	119 cwt.	217 cwt.

		lb.	*oz.*	*lb.*	*oz.*	*lb.*	*oz.*	*lb.*	*oz.*
5. First add; then take away:		11	5	9	12	13	12	17	8
		3	12	5	13	9	15	13	9

		tons	*cwt.*	*tons*	*cwt.*	*tons*	*cwt.*	*tons*	*cwt.*
6. First add; then take away:		2	11	7	10	11	3	13	7
		1	13	3	11	9	17	3	12

7. Find the cost of 2 tons 10 cwt. of coal at 1*s.* 10*d.* per cwt.

8. My coal-shed will hold 5 tons of coal. I purchase $1\frac{3}{4}$ tons from one coal dealer and $2\frac{1}{2}$ tons from another. How much more coal is needed to fill the shed?

9. John weighs 4 stones 6 lb. and his sister May weighs 3 stones 10 lb. Find (*a*) the difference between their weights; (*b*) the sum of their weights. (14 lb. = 1 stone weight.)

Exercise 39

Weights and Measures (cont.). Addition and Subtraction

A. CAPACITY

	(*a*)	(*b*)	(*c*)	(*d*)
1. Change to pints:	1 qt. 1 pt.	3 qt. 1 pt.	1 gall. 1 pt.	2 gall. 3 qt. 1 pt.
2. Change to qt. and pt.:	7 pt.	11 pt.	33 pt.	57 pt.
3. Change to gall. and qt.:	13 qt.	27 qt.	31 qt.	59 qt.
4. Change to gall. qt. and pt.:	37 pt.	49 pt.	53 pt.	87 pt.
5. First add; then subtract:	*qt.* *pt.* 4 1 3 1	*qt.* *pt.* 7 0 3 1	*gall.* *qt.* 7 1 3 3	*gall.* *qt.* *pt.* 7 1 0 3 2 1

6. A milkman served 117 people, each with 1 pint of milk, 93 people, each with 1 quart and had 1 gall. 1 pt. left. How much milk had he at first?
7. One cask contains 12 gall. 1 qt. of vinegar and another contains 11 gall. 2 qt. 1 pt. Find (*a*) the quantity of vinegar in the two casks; (*b*) the difference in quantity they contain.

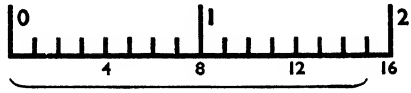
B. TIME

	(*a*)	(*b*)	(*c*)	(*d*)
1. Change to min.:	1 hr. 35 min.	3 hr. 12 min.	4 hr. 45 min.	$5\frac{1}{4}$ hr.
2. Change to hr. and min:	127 min.	216 min.	372 min.	519 min.
3. Change to hours:	1 dy. 17 hr.	2 dy. 11 hr.	3 dy. 19 hr.	4 dy. 23 hr.
4. Change to dy. and hr.:	111 hr.	157 hr.	231 hr.	317 hr.
5. Change to days:	3 wk. 2 dy.	5 wk. 6 dy.	12 wk. 4 dy.	13 wk. 5 dy.
6. Change to wk. and days:	37 dy.	50 dy.	112 dy.	137 dy.
7. First add; then subtract:	*hr.* *min.* 17 21 7 23	*hr.* *min.* 21 43 15 52	*dy.* *hr* 7 17 2 18	*dy.* *hr.* 11 12 7 20
8. First add; then subtract:	*wk.* *dy.* 11 3 2 5	*wk.* *dy.* 21 5 17 6	*wk.* *dy.* 19 4 13 5	*dy.* *hr.* 23 11 17 21

9. The 10.35 a.m. train arrived at 1 p.m. How many hours and minutes did it take?
10. Jane went to bed at 9 p.m. and slept until 7.30 a.m. next morning. How long was that?
11. (*a*) How many hours are there in 1 week? (*b*) How many hours are there in the month of June?
12. School commences at 9 and goes on until noon. Then there are $1\frac{1}{2}$ hours for dinner before the afternoon school begins. Afternoon school ends at 4 p.m. How many hours and minutes are there in a school day?

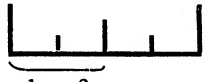
Exercise 40

Fractions and Work in Fractions



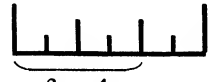
$\frac{15}{8} = 1\frac{7}{8}$

1. Examine the diagram. Then test the following, using your ruler: $\frac{7}{4} = 1\frac{3}{4}$; $\frac{9}{2} = 4\frac{1}{2}$; $\frac{9}{8} = 1\frac{1}{8}$.
2. Write in another form: (*a*) $\frac{3}{2}$, $\frac{7}{3}$, $\frac{13}{8}$, $\frac{9}{4}$, $\frac{7}{5}$, $\frac{11}{9}$, $\frac{7}{6}$; (*b*) $1\frac{2}{3}$, $2\frac{1}{2}$, $1\frac{3}{8}$, $1\frac{3}{5}$, $1\frac{4}{9}$, $1\frac{5}{6}$, $3\frac{1}{3}$.



$\frac{1}{2} = \frac{2}{4}$

Fig. 1.



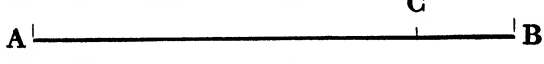
$\frac{2}{3} = \frac{4}{6}$

Fig. 2.

3. Examine figs. 1 and 2. Then test the following (you may use your ruler): $\frac{1}{4} = \frac{3}{12}$; $\frac{2}{3} = \frac{4}{6}$; $\frac{6}{12} = \frac{3}{6} = \frac{1}{2}$.
4. Fill in the missing figures: $\frac{6}{12} = \frac{?}{2}$; $\frac{9}{12} = \frac{?}{4}$; $\frac{3}{12} = \frac{?}{4}$; $\frac{2}{6} = \frac{?}{3}$; $\frac{6}{8} = \frac{?}{4}$; $\frac{4}{8} = \frac{?}{2}$; $\frac{2}{8} = \frac{?}{4}$.
5. How many sixths in $\frac{1}{3}$; in $\frac{1}{2}$; in $\frac{1}{3} + \frac{1}{2}$; in $\frac{1}{2} - \frac{1}{3}$?
6. How many eighths in $\frac{1}{2}$; in $\frac{1}{4}$; in $\frac{1}{8}$; in $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$; in $\frac{1}{2} - \frac{1}{8}$?
7. Change to twelfths and add: (*a*) $\frac{1}{2}$, $\frac{7}{12}$; (*b*) $\frac{2}{3}$, $\frac{5}{12}$; (*c*) $\frac{3}{4}$, $\frac{1}{6}$; (*d*) $\frac{1}{4}$, $\frac{5}{6}$.
8. (*a*) $\frac{1}{2} + \frac{3}{8}$; (*b*) $\frac{1}{3} + \frac{1}{4}$; (*c*) $\frac{3}{4} + \frac{1}{2}$; (*d*) $\frac{1}{2} + \frac{2}{3}$; (*e*) $\frac{5}{6} + \frac{1}{2}$; (*f*) $\frac{3}{4} - \frac{2}{3}$; (*g*) $\frac{5}{6} - \frac{7}{12}$.
9. (*a*) Change to eighths and add: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$; (*b*) change to sixths and add: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{6}$.

ONE WHOLE				
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{10}$ $\frac{1}{10}$	$\frac{1}{10}$ $\frac{1}{10}$	$\frac{1}{10}$ $\frac{1}{10}$	$\frac{1}{10}$ $\frac{1}{10}$	$\frac{1}{10}$ $\frac{1}{10}$

10. How many tenths in $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, $\frac{1}{2}$?
11. Change to tenths and add: (*a*) $\frac{1}{5}$, $\frac{1}{10}$; (*b*) $\frac{2}{5}$, $\frac{1}{10}$; (*c*) $\frac{3}{5}$, $\frac{3}{10}$; (*d*) $\frac{1}{5}$, $\frac{7}{10}$.
12. Find (*a*) $\frac{3}{5}$ of line AB; (*b*) $\frac{3}{10}$ of the part AC.



13. What part of the whole line is (*a*) CB; (*b*) AC?
14. Change to twelfths and then arrange the fractions in order of value, putting the smallest first: (*a*) $\frac{2}{3}$, $\frac{1}{4}$, $\frac{1}{2}$; (*b*) $\frac{3}{4}$, $\frac{5}{6}$, $\frac{2}{3}$; (*c*) $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$; (*d*) $\frac{7}{12}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{1}{2}$, $\frac{5}{6}$.
15. Find (*a*) $\frac{1}{5}$; (*b*) $\frac{3}{10}$; (*c*) $\frac{1}{2}$; (*d*) $\frac{3}{4}$ of 6 tons.
16. Find (*a*) $\frac{1}{5}$; (*b*) $\frac{7}{10}$; (*c*) $\frac{1}{2}$; (*d*) $\frac{3}{8}$; (*e*) $\frac{3}{4}$; (*f*) $\frac{2}{3}$; (*g*) $\frac{5}{12}$ of £3. 10*s*.

Exercise 41

Revision

1. Write answers only: (*a*) 12 × 11; (*b*) 13 + 17 + 25; (*c*) 100 − 29; (*d*) 129*d.*; (*e*) £1 − 13*s.* 7½*d.*; (*f*) 91 farthings; (*g*) 3 score − 3 dozen; (*h*) 131 × 70; (*k*) 3 dozen at 3½*d.* each; (*l*) 1 ton at 1*s.* 9*d.* a cwt.

2. From nine thousand and nine take two thousand and seventy-nine.

3. Father is paid at the rate of 1*s.* 6*d.* an hour. How many hours must he work to earn £1. 10*s.*?

4. Count by elevenpences from 3*s.* 9*d.* to 11*s.* 10*d.* Set your work out, as: 3*s.* 9*d.*, 4*s.* 8*d.*, 5*s.* 7*d.*, etc.

5. Wireless sets are bought at £3. 11*s.* 6*d.* and sold at £4. 10*s.* Find the profit on 11 sets bought and sold.

6. Add the sum of 3,211 and 1,919 to their difference.

7. Tom left home at 2.20 p.m. and returned $1\frac{3}{4}$ hours later. What was the time when he arrived home?

8. (*a*) 79 × 36; (*b*) 1,745 ÷ 37; (*c*) 129 × 23; (*d*) 7,413 ÷ 54; (*e*) 9,001 − 7,223.

9. (*a*) £1. 1*s.* 3*d.* × 12; (*b*) 1*s* 9*d.* × 23; (*c*) 1*s.* 8¼*d.* × 56; (*d*) 1*s.* 2½*d.* × 21.

10. Find the change out of £5 after paying for 12 articles at 7*s.* 11½*d.* each.

11. A rectangle measures $5\frac{1}{2}$ inches by $3\frac{1}{4}$ inches. Find (*a*) the difference between the length and the breadth; (*b*) the distance all round (ft. and in.).

12. If 5 chairs cost £4. 11*s.* 3*d.*, what would 9 chairs cost?

13. (*a*) $\frac{5}{8} + \frac{1}{2}$; (*b*) $1\frac{1}{2} + \frac{3}{8}$; (*c*) $\frac{7}{8} - \frac{1}{4}$; (*d*) $1\frac{2}{3} + \frac{1}{2}$; (*e*) $\frac{5}{6} - \frac{7}{12}$.

14. (*a*) $2\frac{1}{4}$ lb. at 1*d.* an oz. (*b*) 3 gall. 1 qt. at 3½*d.* a pint.

15. Find $\frac{1}{8}$ of (3,216 + 1,739 − 979).

16. (*a*) 1 ft. 7 in. + 2 ft. 3 in. + 1 yd. 1 ft. 8 in. (*b*) 1 yd. 2 ft. 3 in. − 2 ft. 7 in.

17. (*a*) 7 lb. 6 oz. + 4 lb. 13 oz. + 7 oz. (*b*) 13 gall. 2 qt. − 5 gall. 3 qt.

18. (*a*) 7,315 ÷ 60; (*b*) 121 × 70; (*c*) 3,246 ÷ 200.

19. £13. 5*s.* 3½*d.* + £11. 19*s.* 4½*d.* + £9. 11*s.* 7¾*d.* + £7. 13*s.* 5¾*d.*

20. 34 stamps at 3*d.* each + 115 at ½*d.* each + 92 at 1½*d.* each + 131 at 1*d.* each.

21. Write in another form: (*a*) $\frac{7}{4}$; (*b*) $\frac{19}{8}$; (*c*) $\frac{7}{2}$; (*d*) $\frac{13}{6}$; (*e*) $\frac{11}{3}$; (*f*) $\frac{12}{5}$.

22. A greengrocer bought 8 gross of bananas at 4*s.* 6*d.* a gross. He sold $\frac{1}{2}$ of them at 9*d.* a dozen and the other half at 9 for 1*s.* How much profit did he make?

Revision

1. (*a*) 5 yd. 2 ft. + 2 yd. 1 ft. + 3 yd. 2 ft. (*b*) 5 yd. 1 ft. − 3 yd. 2 ft.

2. (*a*) 3 gall. 3 qt. + 7 qt. + 1 qt. 1 pt. (*b*) 13 wk. 2 dy. − 7 wk. 5 dy.

3. (*a*) 2 st. 10 lb. + 1 st. 12 lb. (*b*) 11 st. 3 lb. − 7 st. 13 lb.

4. (*a*) 17 tons 15 cwt. − 5 tons 16 cwt. (*b*) 7 dy. 4 hr. − 3 dy. 20 hr.

5. A table top measures 6 ft. by 4 ft. Find (*a*) its area in sq. ft.; (*b*) the distance round, in yd. and ft.

6. (*a*) 2,179 + 3,016 + 179 + 1,009; (*b*) 7,070 − 2,558; (*c*) 172 × 43.

7. (*a*) 2,759 ÷ 39; (*b*) £13. 0*s*. 7*d*. − 17*s*. 8½*d*.; (*c*) 2*s*. 5*d*. × 27.

8. (*a*) What will 2½ lb. of tea cost at 8*d*. a ¼ lb.? (*b*) 1,000 envelopes at 25 for 2½*d*.?

9. Draw an oblong to show an orchard 15 yards wide and 4 times as long as it is broad. Use squared paper. How many steps would a man take in walking all round the orchard, if his step measured 2 feet?

10. 315*d*. + 127 halfpence + 93 threehalfpence − 73 threepences.

11. Eggs are bought at 1*s*. 3*d*. a score and sold at 1*s*. 2*d*. a dozen. Find the profit on 120 bought and sold.

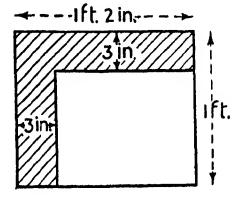
12. Mother gives the shopman a £1 note to pay for the following: ¾ lb. bacon at 1*s*. 2*d*. a lb.; 1¼ lb. butter at 1*s*. 6*d*. a lb.; 2 tins of salmon at 10½*d*. a tin; ¾ lb. lard at 8*d*., and ½ a gall. of vinegar at 3*d*. a pint. What change does she get?

13. What do the following stand for: XXIV, IX, XCIII, LXXXVI, and LX?

14. (*a*) 1,000 threehalfpence − 1,000 pence. (Answer in £ *s*. *d*.)

15. (*a*) ½ + ¼ + ⅛; (*b*) ⅓ + ½ + ⅙; (*c*) 1⅞ − 1½; (*d*) 2¾ − 1½.

16. Find the area of the shaded portion in the diagram.



17. Measure the lines in inches and tenths.

A ——————— B ———————

C ———————————

D ———————————————

Exercise 43

Mental Arithmetic

Write answers only.

1. How many farthings in $5\frac{1}{2}d.$; $7\frac{1}{4}d.$; $9\frac{1}{2}d.$; $11\frac{3}{4}d.$; $1s.$ $1\frac{1}{2}d.$; $1s.$ $6\frac{1}{4}d.$; $1s.$ $9\frac{3}{4}d.$?
2. How many pence in $4s.$ $2d.$; $5s.$ $9d.$; $7s.$ $11d.$; $9s.$ $3d.$; $12s.$ $6d.$; $13s.$ $9d.$; $15s.$ $11d.$?
3. (*a*) 2 dozen at $1\frac{1}{2}d.$ each; (*b*) 9 at $7\frac{1}{2}d.$ each; (*c*) 54 at $1s.$ $2d.$ a dozen.
4. (*a*) 5 at $11\frac{1}{2}d.$ each; (*b*) $1\frac{1}{2}$ lb. at $1s.$ $5d.$ a lb.; (*c*) 3 pints at $7d.$ a qt.
5. (*a*) $13 + 27 + 19$; (*b*) 153×6; (*c*) $1{,}000 - 496$; (*d*) $431 \div 7$.
6. (*a*) $7\frac{1}{2}d. + 9\frac{1}{2}d. + 11\frac{3}{4}d.$; (*b*) $3s.$ $2\frac{1}{2}d. \times 5$; (*c*) $13s.$ $9d. - 7s.$ $6\frac{1}{2}d.$; (*d*) $\frac{1}{8}$ of $13s.$ $4d.$
7. Change: (*a*) $4\frac{1}{4}$ lb. to oz.; (*b*) 1 yd. 2 ft. to in.; (*c*) $1\frac{3}{4}$ hr. to min.; (*d*) 1 day 13 hr. to hr.
8. (*a*) $\frac{8}{10} = ?$; (*b*) $\frac{7}{6} = ?$; (*c*) $\frac{9}{12} = ?$; (*d*) $\frac{10}{3} = ?$; (*e*) $\frac{8}{12} = ?$; (*f*) $\frac{9}{5} = ?$.
9. (*a*) $\frac{1}{2} + \frac{1}{3} = ?$; (*b*) $\frac{1}{3} + \frac{1}{4} = ?$; (*c*) $\frac{1}{2} + \frac{1}{4} = ?$; (*d*) $\frac{7}{8} - \frac{1}{2} = ?$; (*e*) $\frac{5}{6} - \frac{2}{3} = ?$; (*f*) $\frac{4}{5} - \frac{3}{10} = ?$.
10. How many tens in (*a*) 30; (*b*) 16 hundred; (*c*) five thousand?
11. (*a*) $\frac{1}{2}$ of $7s.$ $10d.$; (*b*) $\frac{2}{3}$ of £1; (*c*) $\frac{7}{8}$ of $11s.$; (*d*) $\frac{5}{6}$ of 1 day; (*e*) $\frac{3}{4}$ of $15s.$
12. (*a*) $1\frac{1}{2}$ lb. + 9 oz.; (*b*) $1\frac{3}{4}$ hr. + 45 min.; (*c*) 1 ton 19 cwt. + 1 ton 7 cwt.; (*d*) 1 gall. 3 qt + 1 gall. 2 qt.
13. (*a*) 1 yd. 2 ft. + 2 yd. 2 ft.; (*b*) 3 ft. 11 in. + 2 ft. 10 in.; (*c*) 3 wk. 5 dy. + 1 wk 3 dy.
14. What part of 1 ton is (*a*) 15 cwt.; (*b*) 10 cwt.; (*c*) 8 cwt.; (*d*) 5 cwt.?
15. How much is needed in each case to make £1: (*a*) $12s.$ $6d.$; (*b*) $9s.$ $11\frac{1}{2}d.$; (*c*) $3s.$ $7\frac{1}{2}d.$; (*d*) $17s.$ $1\frac{1}{4}d.$?
16. (*a*) $1\frac{1}{2}$ lb. of chocolate at $6d.$ a $\frac{1}{4}$ lb.; (*b*) $7s.$ $4d.$ is paid for 8 hr. work. How much per hr. is that?
17. How many hr. and min. are there from (*a*) 8.55 a.m. to 10.15 a.m.? (*b*) 10.10 a.m. to 11.35 a.m.?
18. A halfpenny measures 1 inch across. Find the value of a line of halfpennies, 2 yd. long?
19. A grass plot is 15 yd. 2 ft. long and 9 yd. 1 ft. wide. Find the distance round it.
20. The distance between two lines on an exercise book is $\frac{1}{4}$ in. What is the distance between the 1st line and the 27th line?
21. An exercise book is 9 in. long and $7\frac{1}{2}$ in. wide. Find the distance round it in ft. and in.
22. How many 3-pint bottles can be filled from a cask holding 6 gall.?
23. 7 dusters at $3\frac{1}{2}d.$ each. Change from $10s. = ?$
24. (*a*) 3 times $1s.$ $6d.$ — twice $1s.$ $7d.$; (*b*) $\frac{2}{3}$ of 1 guinea — $\frac{3}{4}$ of $10s.$ $4d.$
25. How many penholders at 3 a penny can be bought for $5s.$ $11d.$?

Exercise 44

Area and Scale. Practical Work

1. Using squared paper, draw a rectangle 9 ft. by 4 ft. Let 1 side of a small square stand for 1 foot. What is the area of the rectangle (*a*) in square feet; (*b*) in square yards? Draw lines showing the number of sq. yd. there are in the rectangle.
2. Using squared paper, draw a rectangle 1 ft. 4 in. by 1 ft. 3 in. Let 1 side of a small square stand for 1 inch. This rectangle has an area of 240 sq. in. (16 × 15 sq. in.) or 1 sq. ft. 96 sq. in. Test the area by making out the square foot as shown in fig. 1 and counting the squares in the remainder.

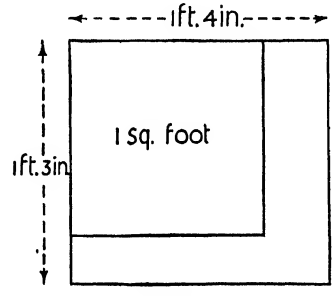


Fig. 1

3. Find (*a*) in the usual way; (*b*) by making a drawing on squared paper, the area of a rectangle 1 ft. 6 in. by 1 ft. 2 in.
4. Find (*a*) by arithmetic; (*b*) by making a drawing on squared paper, the area of the floor (fig. 2) shown. Give your answer (*a*) in sq. ft.; (*b*) in sq. yd. and sq. ft.

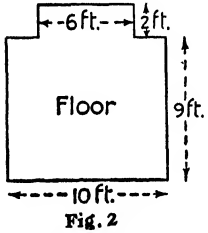


Fig. 2

5. Find (*a*) by arithmetic; (*b*) by making a drawing on squared paper, the area of the floor (fig. 3) shown. Give your answer (*a*) in sq. ft.; (*b*) in sq. yd. and sq. ft.

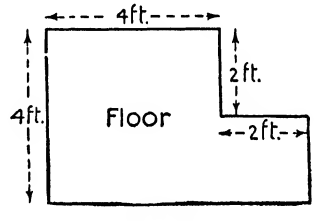
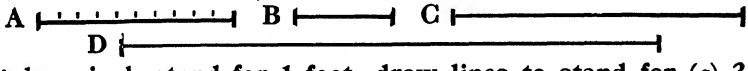


Fig. 3

6. How far is it all round the floor (*a*) fig. 1; (*b*) fig. 2?
7. If line A stands for 1 mile, what distances do lines B, C, and D stand for?



8. Letting $\frac{1}{2}$ an inch stand for 1 foot, draw lines to stand for (*a*) 3 ft. 6 in.; (*b*) 4 ft.; (*c*) 2 ft. 9 in.
9. Fig. 4 shows a map of a railway, drawn to the scale of $\frac{1}{10}$ inch = 1 mile. How far is it from (*a*) A to B; (*b*) A to C; (*c*) A to D in a straight line; (*d*) B to C?
10. How long is (*a*) the shortest distance; (*b*) the longest distance on the railway?
11. A man travels from C through A, F, E, and D and back to C. How far has he travelled?

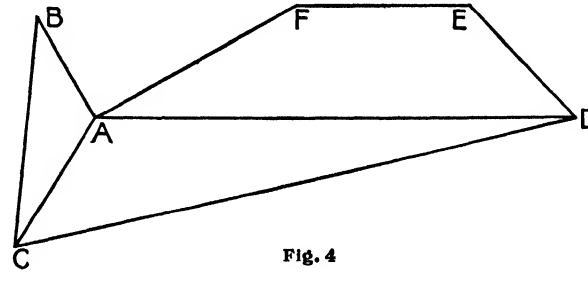


Fig. 4

Exercise 45

A. Measuring Division. B. Mental Arithmetic

A

1. How many times can a length of 3 inches be cut from a length of 4 ft.?
2. How many 2-quart bottles can be filled from a cask holding $6\frac{1}{2}$ gall.?
3. How many articles at 1*s.* 6*d.* each can be purchased for 3 guineas?
4. How many lengths each 1 ft. 3 in. can be cut from a roll of 10 yards?
5. How many books at 1*s.* 9*d.* each can be bought for £3. 6*s.* 6*d.*?
6. How many 3-oz. butter pats can be made from $12\frac{3}{4}$ lb. of butter?
7. How many balls at $6\frac{1}{2}d.$ each can be bought for 11*s.* 11*d.*?
8. Sweets are packed in bottles holding $4\frac{1}{2}$ lb. How many bottles will be required for 117 lb. of sweets?
9. How many articles at 4*s.* 6*d.* each can be bought for £4. 19*s.*?
10. How many times can a bucket holding $4\frac{1}{2}$ gall. of water be filled from a bath holding 99 gall.?
11. Paraffin oil is sold at $11\frac{1}{2}d.$ a gallon. How many gall. can be bought for £1. 10*s.* 8*d.*?
12. Mother paid 1*s.* 4*d.* a lb. for her joint of meat. How many lbs. did she get if her bill came to 7*s.* 4*d.*?
13. A bus leaves the station every 20 minutes. How many buses leave the station from 9 a.m. to 4 p.m.?

B

Write answers only.

14. On her 9th birthday Mary received 6*d.* for every month she had lived. How much did she receive?
15. How many $1\frac{1}{2}d.$ stamps can be bought for 2*s.* $7\frac{1}{2}d.$?
16. After spending $\frac{3}{4}$ of her money, Mother had 12*s.* 6*d.* left. How much had she at first?
17. How much is required to make each amount into £1: (*a*) 13*s.* 6*d.*; (*b*) 17*s.* $5\frac{1}{2}d.$; (*c*) 18*s.* $3\frac{3}{4}d.$?
18. (*a*) $2\frac{1}{3} + 3\frac{1}{6}$; (*b*) $1\frac{7}{8} - 1\frac{1}{2}$; (*c*) $3\frac{1}{5} + 1\frac{7}{10}$; (*d*) $1\frac{3}{4} - \frac{3}{8}$.
19. A 12-inch ruler broke into two parts. One part was $7\frac{3}{4}$ in. How long was the other part?
20. How many bulbs at $2\frac{1}{2}d.$ can be bought for 2*s.* 6*d.*?
21. The distance round a square piece of paper is 1 foot. Find the area of the paper.
22. It is now 1.15 p.m. What time will it be in 70 minutes?

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Exercise 46

A. Bills. B. Drawing and Measurement

A

1. 10 lb. of paint at 1*s.* 1½*d.* a lb. =
   4 rolls of paper at 2*s.* 3½*d.* a roll =
   3 pt. of varnish at 22*s.* per gall. =
   Man's time, 12 hr. at 1*s.* 7½*d.* an hr. =
   Total =

2. 1¼ tons of coal at 2*s.* per cwt. =
   1 gross bundles of firewood at 11½*d.* per dozen bundles =
   ¼ ton of coke at 1*s.* 8*d.* per cwt. =
   Total =

3. ½ dozen knives at 18*s.* 9*d.* a dozen =
   ½ dozen forks at 12*s.* 3*d.* a dozen =
   1 dozen spoons at 8½*d.* each =
   ½ dozen spoons at 10½*d.* each =
   Total =

4. 5 dozen bananas at 10 for 1*s.* =
   12½ lb. of apples at 5 lb. for 1*s.* =
   16 lemons at 4 for 3*d.* =
   7 peaches at 4½*d.* each =
   Total =

5. 3½ yards at 2*s.* 11*d.* a yard =
   12 yd. at 11¾*d.* a yard =
   5½ yd. at 1*s.* 7*d.* a yard =
   1 dozen yards at 2*s.* 3*d.* a yard =
   Total =

6. 1 dozen jerseys at 3*s.* 3*d.* each =
   11 pairs of knickers at 1*s.* 11½*d.* a pair =
   11 pairs of stockings at 1*s.* 5½*d.* a pair =
   11 pairs of football boots at 8*s.* 11*d.* a pair =
   Total =

B

1. Draw to a scale of 1 inch = 1 foot, lines to stand for (*a*) 1½ feet; (*b*) 3¾ ft.; (*c*) 2 ft. 3 in.
2. Using squared paper (the side of one small square to a yard) draw the plan of a rectangular yard, 35 yards by 40 yards. Show a path 3 yd. wide outside the garden. Say how you would find the area of the path.
3. Draw a line 4½ inches long. Mark off $\frac{7}{9}$ of the line.
4. Draw 5 parallel lines at a distance of 2 inches from one another. What is the distance between the 1st and 5th lines?
5. Letting ½ an inch stand for 1 oz., draw lines to stand for (*a*) ½ lb.; (*b*) ¾ lb.; (*c*) 1 lb. 3 oz.
6. A plot of land forms a right-angled triangle. The sides forming the right angle are 28 yd. and 21 yd. long. Draw the plot to a scale of $\frac{1}{10}$ of an inch to 1 yard and find, by measuring, the length of the third side.
7. Line AB stands for 36 miles. How many miles is that to the inch?

A _____ B

Exercise 47

A. Mental. B. Mechanical

A

1. How many rubbers at 2 for $1\frac{1}{2}d.$ can be bought for $10\frac{1}{2}d.$?
2. Father planted 5 rows of plants, 18 in a row and had 4 left over. How many plants had he at first?
3. How many pieces of 6 inches can be cut from a length of $11\frac{1}{2}$ yd.?
4. Divide 720 by 12 and add 100 to your answer.
5. 3 lb. 2 oz. at $8d.$ a lb.
6. How many (*a*) halfpence in $1s.\ 7\frac{1}{2}d.$; (*b*) half-crowns in £1. $5s.$; (*c*) farthings in $1s.\ 7\frac{1}{4}d.$?
7. (*a*) 3 lb. 2 oz. − 12 oz.; (*b*) 1 week 1 day − 6 days; (*c*) 1 hr. 15 min. − $\frac{3}{4}$ hr.
8. Find the cost of 500 postcards at 10 for $1\frac{1}{2}d.$
9. Find the change from £1 after paying for 3 gall. of milk at $3\frac{1}{2}d.$ a pint.
10. (*a*) $\frac{2}{3}$ of $7s.\ 1\frac{1}{2}d.$; (*b*) $\frac{3}{4}$ of 1 hr. 20 min.; (*c*) $\frac{5}{6}$ of £1.

B

1. $\frac{1}{7}$ of 6,713.
2. $\frac{1}{5}$ of £3. $15s.\ 7\frac{1}{2}d.$
3. 127 × (*a*) 19; (*b*) 23; (*c*) 37.
4. $1s.\ 9\frac{1}{2}d.$ × (*a*) 21; (*b*) 16; (*c*) 27.
5. 7,619 − (1,201 + 2,308).
6. £79. $13s.\ 4\frac{3}{4}d.$ − £57. $14s.\ 9\frac{1}{2}d.$
7. 3,327 ÷ (*a*) 19; (*b*) 37.
8. £13. $15s.\ 3d.$ ÷ (*a*) 12; (*b*) 6.
9. $\frac{4}{6}$ of 7,314.
10. $\frac{7}{8}$ of £92. $4s.\ 8d.$
11. 1,213 + 3,756 + 179 + 33.
12. £11. $17s.\ 0d.$ + £13. $5s.\ 9d.$ + $17s.\ 8\frac{1}{2}d.$ + $1s.\ 11d.$
13. $£2\frac{1}{5} + £3\frac{1}{8} + £1\frac{7}{12} - £2\frac{2}{3}$.
14. $5\frac{1}{4}$ ft. + $3\frac{3}{4}$ ft. + $2\frac{7}{12}$ ft. − $1\frac{5}{6}$ ft. (Ans. in yd., ft., and in.)
15. (99 × 57) − 1,009.
16. $(1s.\ 8\frac{1}{2}d. \times 17) - 3s.\ 11\frac{3}{4}d.$
17. Change to threepences, £3. $9s.$
18. Change to threehalfpence, $11s.\ 10\frac{1}{2}d.$
19. 3 lb. 2 oz. + 4 lb. 17 oz. − 2 lb. 9 oz.
20. 2 yd. 1 ft. 6 in. − 1 yd. 2 ft. 9 in.
21. (*a*) $1\frac{5}{6} - \frac{3}{4}$; (*b*) $2\frac{2}{3} + 1\frac{5}{6}$.
22. Arrange in order, lowest first: $\frac{3}{4}$, $\frac{5}{6}$, $\frac{2}{3}$.
23. 1 hr. 37 min. + 2 hr. 33 min. − 1 hr. 40 min.
24. 3 gall. 2 qt. + 4 gall. 2 qt. − 3 qt. 1 pt.
25. (*a*) 135 × 29; (*b*) 3,719 ÷ 45.
26. (*a*) £1. $13s.\ 9d.$ × 12; (*b*) $1s.\ 8d.$ × 37.
27. $1s.\ 7\frac{1}{2}d.$ × (*a*) 15; (*b*) 19; (*c*) 27.
28. $1s.\ 4\frac{1}{4}d.$ × (*a*) 19; (*b*) 23; (*c*) 36.

Exercise 48

Problems

1. A dealer buys bicycles at £3. 12*s*. 6*d*. each and sells them at 5 guineas each. How much does he gain on 12 bought and sold?

2. A milkman has 63 gall. of milk in his cart. What quantity will he have left after serving 84 customers with a quart each and 87 more with 3 pints each?

3. A girl said the sum of £11. 13*s*. 6*d*., £22. 19*s*. 7*d*., and $13\frac{1}{2}$ guineas was £52. 17*s*. 6*d*. How much was she wrong?

4. One assistant in a shop took £45. 13*s*. 4*d*. Another took £17. 14*s*. 9*d*. less than that amount. How much did they take together?

5. A dealer bought 3 dozen suits, paid for them with six £10 notes, and received £1. 1*s*. change. What was the cost of 1 suit, if they were all of equal value?

6. A newsagent receives 3*d*. in the shilling for selling penny newspapers. How much will he receive on 2,880 papers sold?

7. How many pencils at 2 for $1\frac{1}{2}$*d*. can be bought for £3. 12*s*. 6*d*.?

8. A workman spent $\frac{1}{6}$ of his time walking to and from a job. On his time sheet he stated that the job had taken 7 hr. 12 min. How much time was spent in actual work?

9. Two chairs and a table cost £2. 5*s*. The table cost £1. 10*s*. How much was each chair?

10. A dealer bought 2 chests of tea, each holding 84 lb. He made the tea up into $\frac{1}{4}$ lb. packets. How many packets were there?

11. A farmer bought a horse for 16 guineas. After keeping it for 9 weeks at a cost of 3*s*. 6*d*. a week, he sold it to gain £2. 10*s*. over the cost of the horse and the food. For how much did he sell it?

12. Mother buys 3 lb. 2 oz. of wool to knit socks for Father. If each pair of socks takes 5 oz., how many pairs can be knitted?

13. It took us 1 hr. 35 min. to get to the seaside, and 37 minutes longer to return. How long did the double journey take?

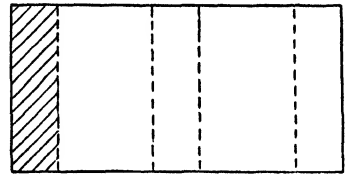
14. The short side of a rug measures 33 inches and the long side 58 inches. Find, in yd. ft. and in., the distance round the rug.

15. A boy makes a right about turn. Through how many degrees has he turned?

Exercise 49

Revision

1. Let 1 inch stands for 1 lb. and draw a line to stand for $\frac{1}{2}$ a stone (weight).
2. Draw a square, making the sides 4 inches long. Then draw lines joining the middle of the top side with the two base (bottom) angles. What is the area of the biggest triangle within the square?
3. (*a*) $\frac{1}{6}$ yd. + $\frac{2}{3}$ yd.; (*b*) $1\frac{5}{6}$ dy. − $\frac{2}{3}$ dy.; (*c*) £$2\frac{3}{8}$ + £$3\frac{3}{4}$; (*d*) $\frac{3}{5}$ hr. + $\frac{7}{10}$ hr.
4. Write in another form: (*a*) $\frac{11}{3}$, $\frac{19}{8}$, $\frac{13}{4}$, $\frac{17}{6}$; (*b*) $2\frac{1}{3}$, $1\frac{5}{12}$, $2\frac{1}{4}$, $2\frac{1}{8}$.
5. Find x in each of the following: (*a*) $\frac{8}{12} = \frac{x}{3}$; (*b*) $\frac{4}{6} = \frac{x}{3}$; (*c*) $\frac{6}{8} = \frac{x}{4}$; (*d*) $\frac{2}{4} = \frac{x}{2}$.
6. (*a*) £19. 17*s*. 4*d*. + £11. 19*s*. 8*d*. + £7. 6*s*. 9*d*. + £13. 19*s*. 8*d*.; (*b*) £99. 13*s*. 4*d*. − £39. 17*s*. 5*d*.
7. Draw a rectangle 6 in. by $4\frac{1}{2}$ in. Draw a diagonal. What is the area of each triangle?
8. How many school milk bottles ($\frac{1}{3}$ pint) can be filled from 25 gall. of milk?
9. (*a*) 7 × 10 × 11 × 12; (*b*) 9,888 ÷ 200; (*c*) 7,169 ÷ 81; (*d*) 97 × 86.
10. Find the sum of two thousand and sixty-seven, three thousand and four, seventy-nine, and one thousand and eighty-four.
11. How many times is 2*s*. 3*d*. contained in £13. 10*s*.?
12. Find the difference between 73 half-crowns and 1,000 sixpences.
13. (*a*) 3 lb. 6 oz. + 7 lb. 9 oz. + 3 lb. 11 oz.; (*b*) 9 hr. 12 min. − 3 hr. 45 min.
14. A motor left Lincoln at 8.30 a.m. and arrived Glasgow at 6 p.m. How long did the journey take?
15. How much is £26. 12*s*. $7\frac{1}{2}$*d*. short of £50?
16. Letting $\frac{1}{2}$ an inch stand for 1 year, draw a line to show how many years old you are.
17. Open out the lid of a match-box, as shown in the diagram. Then measure it and draw one on cardboard, twice the size. Cut it out and fold along the dotted lines. Gum down the flap (shaded part).



18. Make a tray to fit the lid of the match-box in number 17.
19. 1*s*. $6\frac{1}{2}$*d*. × (*a*) 12; (*b*) × 34.
20. During the week Class III had 235 bottles of milk. How much money should teacher have for the milkman (the bottles are $\frac{1}{2}$*d*. each)?

Exercise 50

Tests

A

1. (*a*) 1,237 + 2,756 + 979 − 1,004; (*b*) 137 × 21; (*c*) 2,301 ÷ 27.
2. (*a*) £93. 2*s*. 5*d*. − £37. 11*s*. 9*d*.; (*b*) £100. 0*s*. 0*d*. − £37. 2*s*. 6½*d*.
3. Father planted 17 rows of plants with 39 in a row and had 23 left over. How many plants had he at first?
4. Find the total cost of 225 halfpenny stamps and 225 penny stamps.
5. The butcher's boy had in his basket 3½ lb. of beef, 2 lb. 7 oz. of mutton, and ¾ lb. of suet. What weight altogether had he in the basket?

B

1. (*a*) £17*s*. 11*s*. 3*d*. + £19. 9*s*. 7*d*. + £14. 13*s*. 5*d*. − £29. 18*s*. 9*d*. (*b*) 1*s*. 7*d*. × 25; (*c*) £34. 12*s*. 6*d*. ÷ 10.
2. 5 yd. 2 ft. 4 in. − 2 yd. 2 ft. 7 in.
3. A baker has 798 pastries which he sells at 7 for 6*d*. How much money does he get for all the pastries?
4. A bus started at 9 a.m. and reached the end of its journey at 10.45 a.m. If it travelled at the rate of 20 miles per hour, how many miles was the journey?
5. Eggs are sold at 1*s*. 9*d*. a dozen. How much must be paid for 8 eggs?

C

1. (*a*) 127 × 32; (*b*) 1*s*. 6½*d*. × 18; (*c*) 3,717 ÷ 45.
2. Chairs are bought for 5*s*. 9*d*. and sold for 9*s*. 6*d*. How much profit is made on 1 dozen chairs?
3. Share 45 guineas equally among 5 men and 4 women.
4. 145 sixpences − 145 threepences.
5. A draper has 20 yards of ribbon. One customer buys 2½ ft. and another buys 3 ft. 9 in. What length is left?

D

1. (*a*) 3,217 + 2,169 + 953 − 2,178; (*b*) £10. 14*s*. 0½*d*. ÷ 11; (*c*) £93. 7*s*. 3*d*. − £17. 17*s*. 6*d*.
2. How many ½-pint bottles of milk can be filled from a churn holding 7 gall. 2 qt.? What is the milk worth at 6½*d*. a quart?
3. How many 8*d*. balls can be bought for £1. 12*s*.?
4. (*a*) ½ + ¼ + ⅓ of £1; (*b*) $1\frac{5}{6} - \frac{2}{3}$.
5. A bat was marked 12*s*. 6*d*. Another one was marked 3*s*. 9*d*. more. What would the two bats cost?

Table Square

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48
4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64
5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112
8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128
9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
11	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176
12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192
13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208
14	28	42	56	70	84	98	112	126	140	154	168	182	196	210	224
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240
16	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256

MONEY	WEIGHT	TIME
2*s.* 6*d.* = $\frac{1}{8}$ of £1.	8 oz. = $\frac{1}{2}$ lb.	15 minutes = $\frac{1}{4}$ hr.
1*s.* 3*d.* = $\frac{1}{16}$ of £1.	4 oz. = $\frac{1}{4}$ lb.	30 minutes = $\frac{1}{2}$ hr.
2*s.* 0*d.* = $\frac{1}{10}$ of £1.	12 oz. = $\frac{3}{4}$ lb.	45 minutes = $\frac{3}{4}$ hr.
1$\frac{1}{2}$*d.* = $\frac{1}{8}$ of 1*s.*	16 oz. = 1 lb.	60 minutes = 1 hr.

Tables

I. LENGTH

12 ins. = 1 foot (ft.)
3 feet = 1 yard (yd.)
22 yards = 1 chain (ch.)
10 chains = 1 furlong (fur.)
8 furlongs = 1 mile (ml.)

II. WEIGHT

16 ounces = 1 pound (lb.)
14 pounds = 1 stone (st.)
2 stones or 28 pounds = 1 quarter (qr.)
4 quarters = 1 hundredweight (cwt.)
112 lb. = 1 cwt.
20 cwt. = 1 ton.

III. CAPACITY

2 pints = 1 quart (qt.)
4 quarts = 1 gallon (gall.)
8 pints = 1 gallon.

IV. AREA

144 square inches = 1 square foot (1 sq. ft.)
9 square feet = 1 square yard (1 sq. yd.)

V. TIME

60 seconds = 1 minute (1 min.)
60 minutes = 1 hour (1 hr.)
24 hours = 1 day (1 dy.)
7 days = 1 week (1 wk.)
52 weeks = 1 year.
365 days = 1 ordinary year.
366 days = 1 leap year.

VI. MONEY

4 farthings = 1 penny (d.)
12 pence = 1 shilling (s.)
20 shillings = 1 pound (£)
2 shillings = 1 florin.
2*s*. 6*d*. = 1 half-crown.
5*s*. = 1 crown.
21*s*. = 1 guinea.

4 crowns
8 halfcrowns
10 florins
20 shillings
40 sixpences
80 threepences
} make £1.

VII. ROMAN NOTATION

I, II, III, IV, V, VI, VII, VIII, IX, X,
XX (20), XL (40), L (50),
C (100), CC (200), D (500), M (1000)